

# HOME CINEMA

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### REVIEWS

Polk 5.1 system  
Samsung  
HW-MS650  
BenQ 4K DLP  
projector  
Sonos Playbase  
Amazon Fire TV  
REL subwoofer

# SHINE A LIGHT ON 4K

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## Sonic revamp

How Dolby hopes to shake up TV audio

## Set to stun!

JVC's Z1 laser projector

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YSP-2700  
soundbar up  
for grabs

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- HACKSAW RIDGE
- LA LA LAND

## Ultra HD Blu-ray

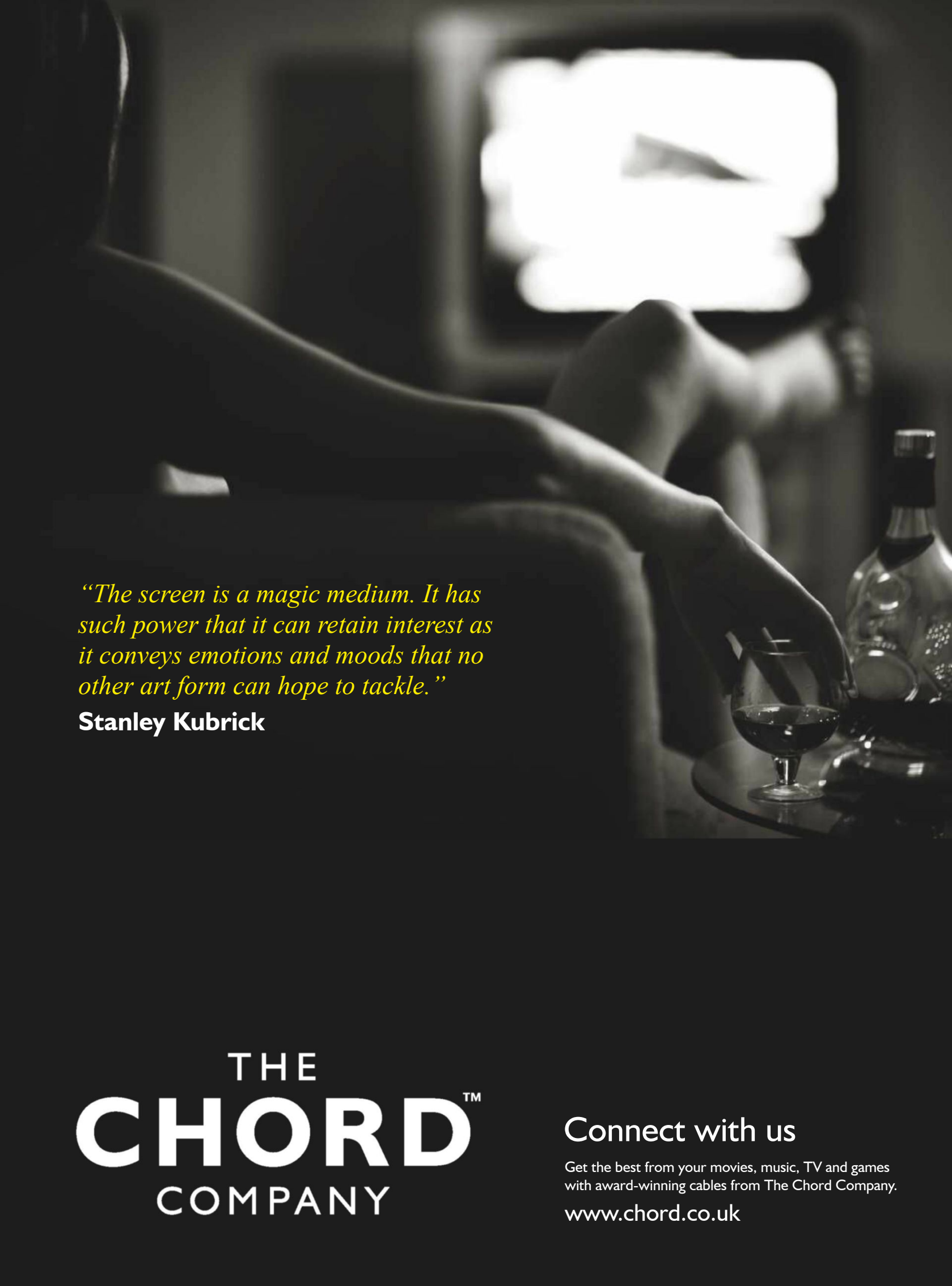
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→ COLLECTING... MUSICALS! → READER'S ROOM → OPINION → HUMAX FREESAT

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A black and white photograph of a person sitting in a dimly lit room, watching a television. The person's arm is extended towards a glass of wine on a table in the foreground. The television screen shows a bright, abstract image. The overall mood is relaxed and sophisticated.

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**Stanley Kubrick**

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## EDITORIAL TEAM

**Editor** Mark Craven  
mark.craven@homecinemachoice.com  
**Deputy Editor** Anton van Beek  
anton.vanbeek@homecinemachoice.com  
**Art Editor** John Rook

## CONTRIBUTORS

Steve May, John Archer, Tekura Maeva, Jon Thompson,  
Dany Phillips, Rik Henderson, Martin Pipe,  
Richard Stevenson, Ed Selley  
**Photography** Mike Prior, Claire Collins

## ADVERTISING

**Advertising Sales Executive** Ben Foster  
Tel: 01366 728488  
E-mail: ben@hillviewmedia.com

**Advertising Sales Executive** Keith Foster  
Tel: 01366 728488  
E-mail: keith@hillviewmedia.com

## MARKETING AND SUBSCRIPTIONS

**UK:** New, Renewals and Enquiries  
Tel: 0344 243 9023  
E-mail: help@hccsecureorder.co.uk  
**USA & CANADA:**  
Toll Free: 001 866 647 9191  
**REST OF WORLD:** New, Renewals and Enquiries  
Tel: +44 (0) 1604 828 748  
**BACK ISSUES**  
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## MANAGEMENT TEAM

**Group Editor** Paul Miller, paul.miller@avtechmedia.co.uk  
**Group Sales Manager** Rhona Bolger  
**Subscriptions Manager** Kate Hall  
**Chief Executive** Owen Davies  
**Chairman** Peter Harkness

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Suite 25, Eden House, Enterprise Way  
Edenbridge, Kent, TN8 6HF  
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NEXT ISSUE ON SALE: June 15, 2017



Our verdict on Ultra HD Blu-ray, p30

# Welcome

First came OLED, now comes QLED, the latter in the shape of our cover star TV, Samsung's QE65Q9F. This is an eye-catching TV in many ways – not least in its phenomenal brightness output and colour vibrancy.



But something else that really caught my eye is that it's flat.

Are curved TVs being phased out? It looks like it. **Panasonic, Sony and LG have all binned the bend**, and while Samsung is still selling such models (the new Q8C range), it's gone back to a flatpanel for its flagship set.

I'm not one to normally celebrate the end of a technology, but in this instance I'm happy to say 'good riddance'. Curved TVs were a fad, and a stupid one. They looked odd wall-mounted, they introduced screen reflection issues with ambient light, and made your TV EPG bow in the middle. The performance benefit? Absolutely zero. The only reason to buy a curved TV was to show it off to your neighbours. And no one likes a braggart...

*Mark Craven*  
Editor



# MENU



## CONTRIBUTORS



**John Archer:**  
The UK's most experienced TV tester cut his teeth as an early HCC staffer



**Jon Thompson:**  
Film producer and post-production expert delves deep into Hollywood and AV



**Steve May:**  
HCC's former Editor-in-Chief is one of the UK's most respected AV journo



**Martin Pipe:**  
Technical expert Martin is renowned throughout the home cinema industry



**Richard Stevenson:**  
Industry veteran and former Editor of UK CE trade journal ERT



**Danny Phillips:**  
A former editor of *What Video* magazine, now a certified home cinema audio buff

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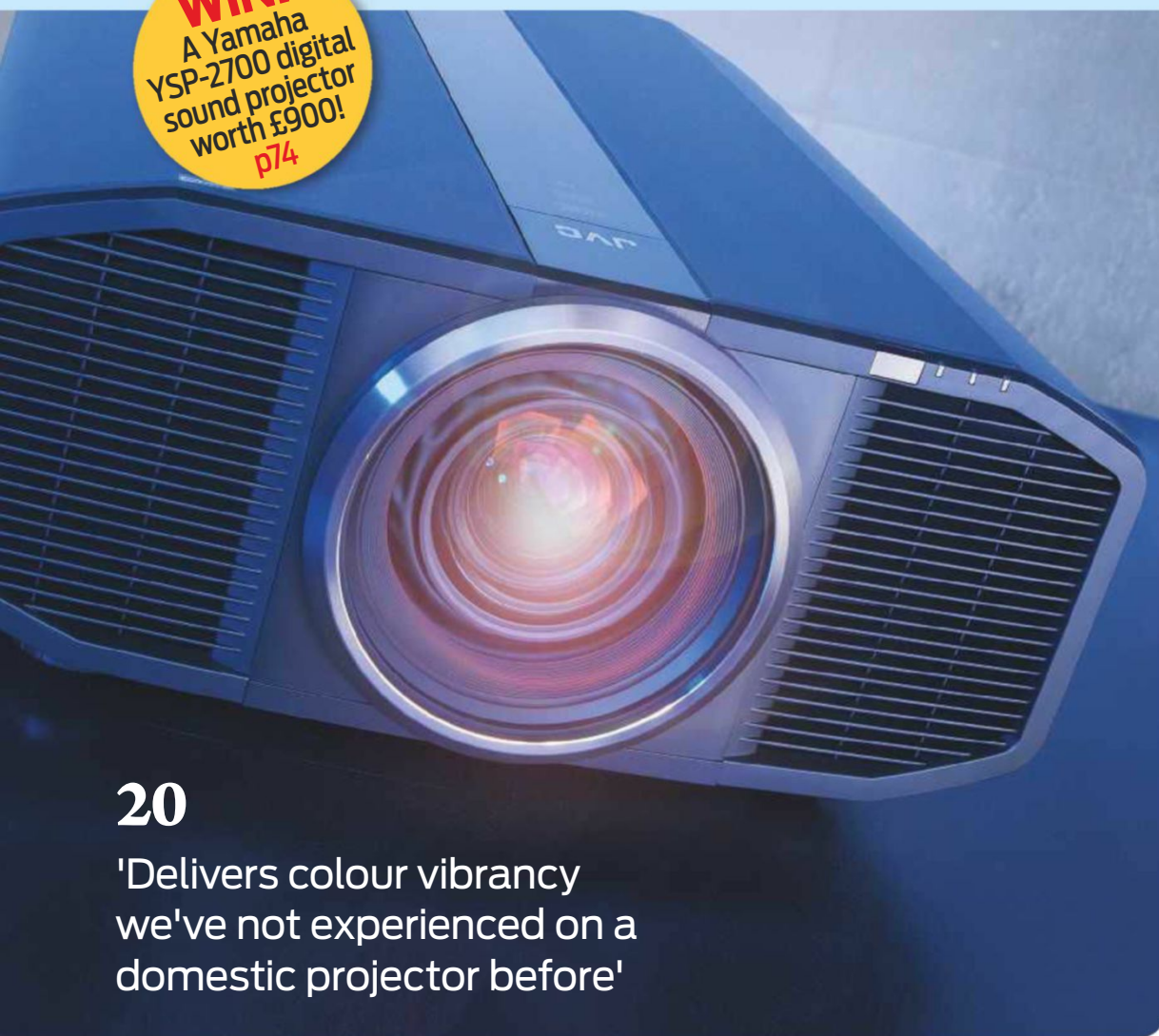
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**WIN!**  
A Yamaha  
YSP-2700 digital  
sound projector  
worth £900!  
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'Delivers colour vibrancy we've not experienced on a domestic projector before'



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# Emit.

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# BULLETIN

→ **News HIGHLIGHTS** PANASONIC Twelve-strong line of 4K HDR sets in-bound  
**ONE FOR ALL** Wall-mount your TV without wall-mounting... **OPTOMA** Projector corp brings Darbee to gaming **WEBWATCH** Click here for trailers and tech **NEWS X10** The hottest news stories in bite-sized chunks **PATRIOTS DAY** Thriller to fly the flag for 4K Blu-ray **& MORE!**

## Let's face the music

Yamaha WXAD-10 → [uk.yamaha.com](http://uk.yamaha.com)

Yamaha is inviting other kit to join its MusicCast multiroom party via its new WXAD-10 adapter. This smallscale network/Bluetooth add-on features phono and 3.5mm outputs to hook into legacy gear (a stereo system, soundbar, AVR, etc), enabling devices to become MusicCast clients. Compatibility with hi-res audio (FLAC, AIFF, WAV and ALAC), a Burr-Brown DAC and a 'subtle ceramic-like design' are all part of the £150 package.



### HCC ONLINE...

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[facebook.com/homecinemachoice](https://facebook.com/homecinemachoice)

# Mounting excitement

One For All Ultra Slim TV Stand TILT → [www.oneforall.co.uk](http://www.oneforall.co.uk)



'What do you do if you want to wall-mount your TV without drilling into the wall?' asks accessories specialist One For All. The answer, it says, is this VESA-compatible stand. With slim feet to tuck under AV furniture and a discreet cable-managing support, it hopes to give the illusion of a stylish on-wall installation. The stand (code-named WM 6471) provides three height adjustments, plus a 15-degree tilt, and is designed to take TVs up to 60in and 30kg. Pricing is around £170.





## Optoma plays with Darbee



Optoma has taken the wraps off an updated version of its GT1080e Full HD projector. As the revamped model's name indicates, the major change to the £730 GT1080Darbee is the addition of Darbee Visual Presence image enhancement tech. The projector also has videogame fans firmly in its sights, with an 'Enhanced Gaming Mode' promising a response time of just 16ms. Other features include twin HDMI inputs, 3,000 Lumens claimed brightness and a 28,000:1 contrast ratio. [www.optoma.co.uk](http://www.optoma.co.uk)

## Scorpio specs announced



Microsoft has confirmed that it will be officially unveiling its new flagship games console at the E3 trade show in June. In the meantime, the company has released some key specifications of the new Xbox (codenamed Project Scorpio). Amongst all of the info about CPUs and GPUs, we now know that the console will play games in native 4K at 60fps with HDR, bolstered by an Ultra HD Blu-ray drive. What hasn't been confirmed is a price tag... [www.xbox.com/en-GB](http://www.xbox.com/en-GB)

# LG soundbar aims high

SJ9 outperforms 'wallpaper TV' model, just don't mention MusicFlow

LG is the latest soundbar czar to add a Dolby Atmos-enabled flagship to its TV audio lineup. Unlike the lookalike Dolby Atmos soundbar that comes with the brand's W7 'wallpaper' OLED screen, this model actually works with Dolby Atmos soundtracks delivered by Blu-ray – and it comes with a wireless subwoofer, too.

HCC had an early preview of the 'bar, and can confirm it plays deliciously loud and throws audio enviably high. The SJ9 claims a 5.1.2 design, even though there are no rear speakers used. Height comes from twin upfiring Dolby-enabled drivers built into the top of the cabinet.

In addition to immersive audio, the hi-res audio compatible SJ9 can play 24-bit/192kHz FLAC and WAV tracks, and will upsample low-bitrate MP3s to 24-bit resolution, something demonstrated to impressive effect with 128kbps files.

The 'bar has 4K HDMI passthrough, but there is only a single HDMI input provided alongside the HDMI ARC connection. 'We found that consumers didn't use HDMI switching when we provided it in the past,' explains David Seperson, LG's director of global marketing.

LG rates the total power output of the SJ9 at 500W. And even taken with an obligatory pinch of salt, there's no doubt that it can rival the audio output of a dedicated all-in-one package.



**Robert Taylor:** 'We're now working with Google and will focus on Google Home multiroom compatibility'

Shown off using Dolby's familiar Atmos test disc, we didn't experience much surround sound, but there was definitely an Atmos height component to the soundstage.

Priced at £1,000, it will debut as one of the cheaper Dolby Atmos soundbars available. 'We see this soundbar as a perfect match for our Dolby Vision TVs. It's an end-to-end Dolby solution,' says Seperson.

## Halting the Flow

In a related move, LG confirmed to HCC that it is ditching its MusicFlow wireless streaming product range, and throwing its multiroom hat in with Google Home and Chromecast Audio instead.

Senior home entertainment product manager Robert Taylor said the decision follows consumer confusion over its MusicFlow messaging. 'We had Bluetooth and Wi-Fi speakers both called MusicFlow, it was confusing,' he admits.

The move reflects a failure of MusicFlow to find any real traction with buyers, in a market that continues to be dominated by Sonos.

LG has long supported Google's AV adventures. It released a number of TVs with integrated Google OS at the end of the noughties, but these failed to take off. The company says it has no plans to offer support for Amazon's Alexa platform.



LG's SJ9 Atmos soundbar has the ability to stream wirelessly via Chromecast

## Playlist...

Team HCC spins up its disc picks of the month

### Arrival (Blu-ray)

Denis Villeneuve's thought-provoking sci-fi continues to enthrall on Blu-ray, with its endlessly creative DTS-HD MA 7.1 soundmix being especially worthy of praise.



### The Kettering Incident (DVD)



The Night Manager's Elizabeth Debicki stars in this brain-boggling Aussie mystery series. Season Two can't come soon enough...

### Experiment in Terror (Blu-ray)



The gorgeous Blu-ray restoration of this 1962 thriller is sure to send a shiver down your spine.

### Alien Anthology (Blu-ray)



In the wake of *Alien: Covenant's* cinema release, we had to go back and savour the original films on Blu-ray all over again.

### The Goose Steps Out (Blu-ray)



This classic 1942 Will Hay comedy scrubs up nicely on BD in its fully uncut form (at last).

## At the 'plex...

Heading out to see a flick?  
Catch these this month

### King Arthur: Legend of the Sword

May 19: The Arthurian legend gets yet another cinematic do-over, this time with Charlie Hunnam playing the man who would be King and Guy Ritchie directing the ensuing medieval mayhem.

### Pirates of the Caribbean: Salazar's Revenge



May 26: Disney's swashbuckling fantasy franchise takes to the high seas once more, pitting Johnny Depp's Jack Sparrow against the undead pirate hunter Armando Salazar (Javier Bardem).

### Wonder Woman



June 02: Warner must be hoping that this fourth film in the DC Extended Universe will avoid the criticisms handed out to its predecessors. Judging from the wonderful trailers, we think it could be on to a winner.

# AVRs in firmware frenzy

Onkyo and Pioneer activate Chromecast; Yamaha widens HDR support

A firmware update has been released for Onkyo and Pioneer AV receivers – plus other home entertainment hardware – to activate in-built Chromecast functionality that has previously lain dormant. Support for voice control through the Google Home device, and future Google Assistant products, has also been added.

The update covers kit manufactured during 2016 and after. Onkyo receivers now Chromecast/Google Home-enabled are the TX-RZ3100, TX-RZ1100, TX-RZ810, TX-RZ710, TX-NR676, TX-NR656, TX-NR575, TX-NR555 and TX-NR474. Additionally, the PR-RZ5100 processor and LS7200 and LS5200 systems have been brought up to speed.

In Pioneer's stable, the update awakens the SC-LX901, SC-LX801, SC-LX701, SC-LX501, VSX-LX302, VSX-1131, VSX-932, VSX-832, VSX-831, VSX-S520D and VSX-S520 receivers.

The addition of Chromecast will allow a variety of streaming smart device apps to be 'cast' to the AVR over its dual-band Wi-Fi hookup, plus services accessed via a Chrome browser on Mac, Windows, and Linux PCs. The two brands – now part of the same corp – promise a 'smooth and convenient wireless playback experience' from apps including Spotify, TuneIn radio, Deezer and Tidal, with no fussy setup procedures. Devices just need to be on the same wireless network as the AVR.

Currently, it's only audio streaming that is being supported, with sampling rates up to 48kHz.



Google Home: your gateway to telling your Pioneer/Onkyo AVR what to do...

The simultaneous addition of support for Google Home will find less immediate users, but is perhaps the more intriguing news. Owners of the £130 smart AI speaker (a rival to Amazon's Alexa-powered Echo) can call up music via voice command to play through their AV setup, specifying streaming service, album or song title, and demand a volume boost or other playback controls. The functionality will also work with other incoming products featuring Google Assistant, such as Nvidia's Shield TV box.

## HDR update incoming

In other firmware news, Yamaha is giving voice control japes a steer and focusing on HDR early adopters with updates to its own receiver lineup to guarantee passthrough of Dolby Vision and Hybrid Log-Gamma (HLG) encoded content.

Models in line for a firmware tweak later this year are the RX-V681, RX-A860, RX-A1060, RX-A2060 and RX-A3060. The flagship CX-A5100 processor will also be made Dolby Vision/HLG compatible. Tidal and Deezer integration is being added to the feature slate too.

Says Yamaha Product Specialist Chris Wray: 'We're very excited to be able to support our existing and loyal customer base with new tech, giving people extra value from their plumbed-in home cinema.'

# Samsung announces HDR 10+

Manufacturer teams up with Amazon to introduce Dolby Vision rival later this year

Samsung and Amazon Video have announced a new High Dynamic Range format called HDR 10+ (also HDR10 Plus, seemingly), which updates the open standard to introduce dynamic metadata to improve image quality.

The format is supported by all of Samsung's 2017 Ultra HD TVs, while models launched in 2016 will receive a firmware update in the second half of this year. Amazon has pledged to begin streaming content in HDR 10+ worldwide.

While the static metadata used by the current HDR10 format doesn't change during playback, the dynamic metadata used by HDR 10+ allows

a display to adjust brightness levels on a scene-by-scene or even frame-by-frame basis. The result is 'an unparalleled HDR viewing experience,' according to Kyoungwon Lim, Vice President of Samsung Electronics' visual display division.

Samsung undoubtedly hopes other content providers will follow Amazon's lead and adopt the open standard.

Unlike LG and Sony, Samsung is not offering TVs with support for the Dolby Vision format.

[www.samsung.com/uk](http://www.samsung.com/uk)

Is Samsung muddying the HDR waters?





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## Extras...

Small items that could make a big impression...

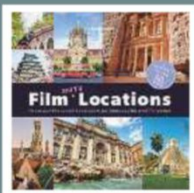
### The Art and Making of Kong: Skull Island



A companion piece to the recent *King Kong* reboot, Titan's £25 hardback

is a superb showcase for the artists who worked on the film. Packed with gorgeous concept art, the book offers an in-depth look at the design work (the sheer scale of which demands several large gatefold images), including a number of unused scenes and ideas.

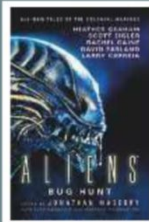
### Film and TV Locations: A Spotter's Guide



Film fans who fancy getting out of their movie dens for a while will

undoubtedly find this new Lonely Planet guide invaluable. Priced just £8, this handy little book highlights more than 100 locations that have served as the backdrop to some of the most iconic scenes in the history of film and TV, from Ukraine's Odessa Steps (*Battleship Potemkin*) to Jordan's Wadi Rum (*The Martian*).

### Aliens: Bug Hunt



Edited by Jonathan Maberry, this anthology collects 18 new short stories featuring the *Alien* franchise's

Colonial Marines and set during the timeframe of the first four films. As is so often the case with these sorts of anthologies, the stories are a bit hit and miss, but the good outweighs the bad and there are a few real gems to be found – particularly Rachel Caine's *Broken*, which provides a look at Bishop's origins and explores why he is different to other synthetics we meet in the series.

# Pink Floyd remixed in 3D

Experimental audio processing used to enhance new V&A exhibition

Pink Floyd will soon be heard playing live once again at the V&A Museum's new *The Pink Floyd Exhibition: Their Mortal Remains*, courtesy of Sennheiser 3D Ambeo audio processing.

The exhibition will feature a new immersive audio mix of *Comfortably Numb*, taken from the original recording of the 2005 Live 8 concert, the last time David Gilmour, Nick Mason and Richard Wright played on stage with former member Roger Waters.

Using Ambeo 3D, the BBC's original multitrack master has been reworked into a spectacular 25-speaker, 360-degree surround mix by Floyd's recording engineer Andy Jackson, senior engineer Simon Rhodes and Golden Globe-nominated composer and producer Simon Franglen.

HCC was invited to Abbey Road for a preview – and it may just be the best thing we've ever heard.

For one thing it sounds huge. The playback system used at Abbey Road comprises stacks of Neumann KH 870 and KH 420 speakers, arranged in two tiers, topped off with height speakers.

'There's never been a show with this quality of audio – ever!' we were told. 'We've used these speakers on big cinema mixes and they sound amazing,' says Franglen. 'This is the best PA you'll ever hear. We have access to any speaker in the world, and this is the best-sounding monitoring system we've come across. It is ludicrously great.'

The exciting news is that visitors to the V&A will hear exactly the same setup used at Abbey Road, albeit in a custom-designed auditorium with extensive acoustic treatment. 'This system can play at gig levels. You feel like the band is in the room with you,' exclaims Jackson. 'We have to give visitors something they can't hear any other way. Otherwise they could just buy a disc.'

### It's What We Do

Sennheiser's Ambeo 3D technology is rather different from Dolby Atmos and other immersive audio formats. 'We have three levels of height,' reveals



**Andy Jackson:** 'We have to give visitors something they can't hear any other way. Otherwise they could just buy a disc'

Rhodes. 'Unlike Dolby Atmos, where you have two or four speakers upstairs, here we have a second level that we can put

anything into. You can move things vertically. It's a discrete image rather than a virtual one, it has solidity. We can give a drum kit height – the kicks are on the floor and the cymbals are higher.'

The treatment is fitting, says Rhodes. 'Surround is in Pink Floyd's DNA. They tried to master *The Dark Side of the Moon* in four-channel, the original disc cut was quadraphonic. Now we have the technology to take it further. Having done 5.1 mixes for years, I came to this with preconceptions about what we could achieve. With 5.1 you have the perimeter of a circle you can work with, but you can't get inside that. With Ambeo 3D you get to use the entire volume of space.'

The listening experience is more realistic, adds Franglen: 'In 5.1 or 7.1 mixes, the sound is generally in front of you, with a bit round the back. At the exhibition, there are four screens all around, so the point is to actually be inside the music. When you have all these extra sound dimensions you can walk around, focus on instruments and vocals.'

Abbey Road is, of course, the studio where the band recorded a number of its best-known albums, including *The Dark Side of the Moon* and *Wish You Were Here*. The exhibition marks the 50th anniversary of their debut album.

### Welcome to the Machine

During the recent IFA Global Press Conference, which foreshadows September's technology show, Sennheiser unveiled its first Ambeo 3D device, a binaural recording headset. The gadget allows users to shoot videos on their smartphones with 3D audio for an immersive listening experience.

Users can also make Ambeo 3D audio-only recordings.

The Ambeo headset features two omni-directional microphones integrated in the earpieces. These record subtle differences in timing, volume and timbre that occur as sounds from different directions reach each ear.

*The Pink Floyd Exhibition: Their Mortal Remains* launched at London's V&A Museum on May 13 and runs through October 1. The show then embarks on a world tour.



**Inset: The first Ambeo 3D device is a binaural recording headset**



## This month's top 10 news stories in handy, bite-sized chunks...



### 1 Cricket in 4K? Howzat!

Sky Sports will be showing Test cricket in 4K this year as part of what it dubs its 'biggest ever Summer of sport.' Sky Q customers in the UK and Ireland will be able to watch the four-match England series against South Africa throughout July and August in UHD – no word yet on future broadcasts. The satcaster is also celebrating its Sky Q user base reaching one million households.

### 2 Pod people

Berkshire-based Hi-Fi Cinema has landed the UK distribution rights for Danish designer speaker brand Podspeakers, and is promising a host of new products. 'We expect to make a big impact in a short space of time in the UK...' says Hi-Fi Cinema co-founder Alan Gornall. 'Demand is high for this iconic design and we're very excited to be working with this innovative brand.'

### 3 Bose accused of spying

A recent lawsuit accuses Bose of using its headphones and Bose Connect app to collect data on the listening habits of its customers, which it then sold to third-party companies. Bose disputes the accusation, with a spokesperson for the company stating it will 'fight the inflammatory, misleading allegations made against us through the legal system.'

### 4 BBC Proms goes lossless

The BBC has announced that it will stream The Proms in FLAC this year. BBC Radio 3 listeners will be able to hear the concerts in CD-quality 16-bit/44.1kHz audio – although to do so they will have to stream the station from the BBC Proms or BBC Radio 3 website.

### 5 Netflix growth slows

Figures for the first three months of the year reveal that Netflix added 1.42m subscribers in the US and 3.53m more in other countries. As impressive as this appears, it actually represents a slowdown in expected growth, falling some 250,000 customers short of previous Wall Street predictions (1.5m and 3.68m respectively).

### 6 Kodi crackdown continues

Online retailer eBay has joined Amazon in removing listings for any 'fully-loaded' Kodi set-top boxes that feature copyright-infringing add-ons to facilitate the illegal streaming of films, TV shows and live sports.

### 7 Arrow targets readers

Having dipped its toe into the world of book publishing last April with the *Cult Cinema* collection of essays, Arrow Video is launching a dedicated Arrow Books imprint exploring specific films and filmmakers. The range kicks off on July 31 with three titles: *Unchained Melody: The Films of Meiko Kaji* by Tom Mes, *The Blair Witch Project* by Russ Gomm and *Ghost in the Shell* by Andrew Osmond. The books are priced £13 each and will be the same size as the label's Blu-ray cases.

### 8 Trouble at Toshiba

Toshiba Corp. has issued a warning that it may not be able to stay in business. The ailing Japanese company is in talks to sell off its computer chip business in order to drum up much needed cash after its Westinghouse Electric nuclear subsidiary recently filed for bankruptcy.

### 9 Bluetooth record breaker

Audio brand JBL is now a Guinness World Record title holder. At an event in London, the company successfully played 1,000 of its Flip 4 Bluetooth speakers simultaneously from a single media source – far surpassing the previous record of 208 speakers, set by Ultimate Ears in 2014.

### 10 3D fans go Rogue

*Rogue One: A Star Wars Story* is the fastest-selling DVD/Blu-ray release of the year so far, shifting an impressive 661,000 discs in its first week. While a new *Star Wars* film selling shedloads isn't exactly surprising, the popularity of the stereoscopic version certainly is – with a spokesman for The Hut Group telling trade newsletter *The Raygun* that the 3D Blu-ray outsold the standard Blu-ray at online retailer Zavvi.



## Premiere...

What's happening in the world of TV and films...

### Twice as furious?



With the latest *Fast & Furious* sequel zooming past box office records pretty much everywhere, Universal is reportedly planning a spin-off based around Dwayne Johnson's Luke Hobbs and Jason Statham's Deckard Shaw. Series architect Chris Morgan is expected to pen the script.

### Avatars announced

They've been delayed more often than Southern Rail trains, but we finally have official release dates for James Cameron's four(!) *Avatar* sequels. The journey will continue at cinemas on December 18 2020, December 17 2021, December 20 2024 and December 19 2025.

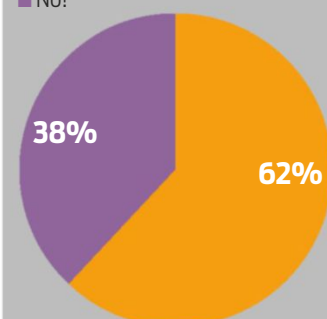
### The truth is out there!

Fox has confirmed that an eleventh season of *The X-Files* is on the way. Chris Carter, Gillian Anderson and David Duchovny are all onboard for a new run of 10 episodes, scheduled to go into production this Summer for broadcast in late 2017 or early 2018.

## We asked...

Do you import discs (DVDs, Blu-rays and/or Ultra HD Blu-rays) from overseas?

Yes!  
No!



Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more polling action



# 4K movie marathon

Patriots Day → Lionsgate UK → DVD/Blu-ray/Ultra HD Blu-ray



*Deepwater Horizon* director Peter Berg and leading man Mark Wahlberg reunite to tackle another real-life tragedy with this thriller based on the 2013 Boston Marathon bombing, and the hunt for those responsible. *Patriots Day* makes its disc debut in the UK on June 26, courtesy of Lionsgate, with both the Blu-ray and UHD BD platters promising DTS:X sonics and six featurettes covering the making of the film and talking to those involved in the actual events.





## Native **4K** Projectors (4096 x 2160 Pixels)



### VPL-VW5000ES

- Laser light source
- 5,000 ANSI lumens
- 20,000 hour lamp life



### VPL-VW1100ES

- Dynamic contrast ratio: 1,000,000:1
- 2,000 ANSI lumens
- 3,000 hour lamp life



### VPL-VW550ES

- Available in Black or White
- 1,800 ANSI lumens
- 6,000 hour lamp life



### VPL-VW320ES

- Available in Black or White
- 1,500 ANSI lumens
- 6,000 hour lamp life

## Full HD Projectors (1920 x 1080 Pixels)



### VPL-HW65ES

- Available in Black or White
- 1,800 ANSI lumens
- 6,000 hour lamp life



### VPL-HW45ES

- Available in Black or White
- 1,800 ANSI lumens
- 6,000 hour lamp life

## Face to Face

Topics of discussion on the HCC Facebook page

**Samsung adding HDR 10+ support – even to last year's TVs**



Bit of a farce. Us AV nuts are thinking 'What the hell?', so Joe Public won't have a clue!  
*Dean Gregory*

Dolby Vision with Sony and LG onboard is a big threat to Samsung, so the rear-guard action begins with HDR 10+.  
*Simon NG*

Really? Another one?!? Good way to really confuse the public.  
*Steve Old*

It's getting silly now. There should be only one standard.  
*Barrie Head*

## What you're watching on your home cinema...

Too busy building a rack to put all my BDs on, instead of having them stacked all over the place!

*Mark E. Ramsman*



*Exodus on 4K and then King Kong and 10 Cloverfield Lane on BD.*  
*Callum Mckenzie*

Kevin Smith weekender: *Red State*, *Tusk* and *Yoga Hosers*!  
*Robert Corrigan*

I'm off out to the cinema to watch *Guardians of the Galaxy Vol 2*.  
*Stephen Kelly*



*Rogue One* and – yes, you guessed it – *The Greasy Strangler*.  
*Richard Farrer*

Hootie tootie disco cutie? What a film!  
*Chris Sayles*

*Saving Private Ryan* and *Hacksaw Ridge* – WW2 double bill.  
*Martin Pickering*



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# Back of the 'net

Trailers, technology and more to check out on the web



## Jokes + guns

Proof that Hollywood hasn't fallen into a comic book movie trap with no escape comes in the form of A-list action comedy *The Hitman's Bodyguard*, starring Samuel L. Jackson (the hitman) and Ryan Reynolds (his bodyguard). Line up a trip to the 'plex this Summer for some F-bomb-fuelled laughs.  
[youtu.be/Anps6VPe0u8](https://youtu.be/Anps6VPe0u8)



## Time for a spring clean?

More from the affable Danes on Dynaudio's YouTube channel, this time spending 10 minutes discussing cleaning and caring for your speakers. If your drivers are caked in dust or sporting sticky finger prints, what's the best way to get them looking new? And can you do more harm than good?  
[youtu.be/UF9Y34Hd9G8](https://youtu.be/UF9Y34Hd9G8)



## Scatter your sound

Sonic treatment specialist GIK Acoustics has a new diffuser, dramatically dubbed the Gotham. It employs a calculated precision-cut 'skyline' sequence that's claimed to turn 'damaging reflections into a sonically pleasing diffused soundfield' without deadening higher frequencies.  
[www.gikacoustics.co.uk](http://www.gikacoustics.co.uk)



## 'You're my only hope'

The recent Star Wars Celebration convention in the US (which also debuted a teaser trailer for *Episode VIII*, due out this Christmas in cinemas) featured this official Carrie Fisher tribute video in honour of the late actress. Laden with behind-the-scenes footage, it's both funny and quite moving.  
[youtu.be/sE99le5FBrY](https://youtu.be/sE99le5FBrY)



**TOP PICK**

## 'He's a friend from work...'

A good teaser trailer should do just that – tease. This preview for *Thor: Ragnarok* builds the excitement for its November release through glimpses of mindboggling SFX, the introduction of new characters, Led Zeppelin's *Immigrant Song* blasting away and a special guest appearance.  
[youtu.be/v7MGUNV8MxU](https://youtu.be/v7MGUNV8MxU)



## Knees up Mother Brown, etc

Here's something you may have missed: Al Pacino going full Cockney to play a London lowlife. The film in question is the *The Local Stigmatic*, a 56-minute drama made in 1990 but never theatrically released. Pacino's accent isn't the worst we've ever heard, but it's definitely... weird.  
[youtu.be/GO5rEeH5JQs](https://youtu.be/GO5rEeH5JQs)



# The future's bright

Panasonic EX750 → [www.panasonic.co.uk](http://www.panasonic.co.uk)

Panasonic has launched a trio of 4K HDR LED flatscreen ranges for Summer 2017, headlined by the EX750 (pictured). This slim-framed telly will be available in 75in, 65in, 58in and 50in versions, and features Panasonic's Studio Colour HCX2 processor, Super Bright panel, HDR 10 and Hybrid Log-Gamma HDR playback, Freeview Play/Freesat tuners and My Home Screen smarts. Expect to pay £1,300 for the 50in model; £4,500 for the 75in whopper. Additional EX700 and EX600 lines also offer four screen sizes, down to 40in.





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**John Archer**  
never goes  
anywhere without  
his Ultra HD Blu-ray  
copy of *Pacific Rim*,  
and is building his  
own Jaeger just to  
be on the safe side





# THE BOLD AND THE BEAUTIFUL

JVC's DLA-Z1 home cinema projector has finally arrived, selling for £35,000. There's no way of sugar-coating this, so I figured I might as well just get it out there right away. Take a few seconds to recover your composure. Okay? Good. Let's move on to explain just why it costs so much...

There are two main reasons. For starter, it's JVC's first genuine, native Ultra HD projector. Out is the company's previous 'e-shift 4K' technology that delivers a pseudo 4K effect by putting two marginally offset 1080 chipsets in sequence. In comes a 4,096 x 2,160-resolution chipset using JVC's acclaimed D-ILA projection technology. What's more, JVC claims this chip squeezes all those pixels into a smaller area than any rival 4K projection solution, potentially resulting in a brighter, smoother, high-resolution image.

The second big excuse for the Z1 costing what it does is the 'Blu-Escent' laser lighting system. The motivation for this is JVC's desire to partner the native 4K resolution of the Z1 with a compelling high dynamic range (HDR) performance. Projectors lit using conventional lamps have so far generally struggled to really convince with HDR, thanks to the format's high brightness requirements. The Z1's laser system, though, can pump out a claimed 3,000 Lumens, which is an increase of around 50 per cent over anything any previous domestic JVC D-ILA PJ has managed. This still falls 2,000 Lumens short of ➤





the 5,000 figure boasted of by Sony's 4K laser solution, the VPL-VW5000ES. But then that projector sells for £55,000.

## We're gonna need a bigger boat

While the 4K D-ILA chipset inside the Z1 might be small, its chassis is huge. JVC's top-of-the-range PJ hung some distance over all sides of my usually ample enough projector stand, and it weighs so much (37.5kg) that you shouldn't even think about trying to move it by yourself. Because you'll be really upset if you drop it.

The size is predominantly a result of the combination of the Z1's laser lighting array and a seriously uncompromising lens (designed to ensure there's no loss of 4K clarity),

**'It's a big unit, but the JVC Z1 isn't ugly. Chassis edges are curved enough to stop the design feeling harsh'**

which comprises of no less than 18 separate elements and five extra-low-dispersion lenses.

The laser implementation isn't just about serving up HDR-friendly luminance. Its design enables the Z1 to deliver a claimed 100 per cent of the DCI-P3 digital cinema colour spectrum and 80 per cent of the full BT.2020 HDR colour 'container' developed for the HDR age.

Lamp-life also ceases to be a major concern. JVC says its PJ's laser source will run for 20,000 hours (around 10,000 movies) with no need to replace. This will save a few hundred quid on lamp swap costs versus a typical projector. Every little helps.

And a final key benefit of laser technology concerns contrast. JVC's D-ILA models are already famed for their outstanding performance in this area, but the Z1 takes things to another level – at least on paper. This flagship beamer claims a contrast ratio of infinity:1.

**1. The DLA-Z1 is JVC's most ambitious – and expensive – PJ yet**

**2. Use the remote to control focus, zoom and lens shift**



Of course, any quoted specifications claiming 'infinity' anything are best approached with extreme caution. But at the very least you'd expect a contrast performance that clearly out-guns rivals while maintaining JVC's traditional class-leading black level response.

## Keeping up with HDR

Given the lengths the Z1 goes to in order to be a first-rate HDR projector, it's pleasing to find that it supports the HLG broadcast variant, in addition to HDR 10. Note, though, that there's no support for Dolby Vision (nor any of the myriad other HDR formats that have probably been launched in the time it took me to write this sentence...).

It's a big unit, but the Z1 isn't ugly. Chassis edges are curved enough to stop the design feeling harsh, and a large metallic strip down the centre of the top edge adds a touch of glamour. However, I'd expect this projector to be installed in the sort of setups where its styling is of no importance.

The connections are reasonably numerous. The twin HDMI inputs offer full 18Gbps, 4K/60p and 4:4:4 chroma sub-sampling support, while RS-232, Ethernet and 12V trigger ports are there for system integrators. Calibration and setup options are extensive, including full colour management, six slots for user-defined presets and an Auto-Calibration function using an external sensor and proprietary JVC software. Control is high-end, too, with motorized operation of focus, zoom and lens shift via the backlit remote control.

Feeding the Z1 with *Sully* and *Pacific Rim* on Ultra HD Blu-ray initially left me feeling unexpectedly downbeat, though. Using the default HDR picture presets, it seems that even 3,000 Lumens isn't enough to make HDR content shine in the way I know it can. During the first tour of *Pacific Rim*'s Shatterdome, some of the background people and objects look distractingly dark and lacking in shadow detail; more like holes in the picture than natural parts of it. And at the other end of the HDR light



# "JAW-ON-THE-FLOOR STUFF"



**Tight room-shaking bass or rampant house-wobbling bass? It's your ULTRA choice...**

“...the SB16 Ultra remains a brilliant subwoofer that's fast, controlled and can sniff out genuine sub bass moments in your BD collection. The PB16 Ultra meanwhile is built for those whose rooms can handle its fear-inducing SPLs...”

Mark Craven HCC March 2017



SB16 Ultra



PB16 Ultra

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karma-av.co.uk



spectrum, the bright spotlights of the Shatterdome and the rich hologram graphics of the control consoles are missing that sense of punch I've experienced on bright HDR TVs.

I was able to largely solve both these problems by boosting the projector's brightness setting by around five steps from its default position. Suddenly, I could discern details in the dark objects again, and there was enough intensity in the peak highlights of both *Sully* and *Pacific Rim* to no longer leave you in any doubt that you're watching HDR material. Phew.

There is a problem with this brightness 'fix', though. Increasing the Z1's light output enough to deliver well-balanced HDR pictures causes black-heavy shots, such as *Sully*'s night-time run around New York, to begin looking slightly greyer than they did before – and greyer than I would normally expect to see with JVC's D-ILA projectors. I suppose the brand has decided to put preserving its highly-regarded black level prowess ahead of brighter highlights and more shadow detail with HDR. For me, though, the extra brightness is necessary, despite the negative effect it has on black levels.

Once a bit of greyiness has crept into them, the Z1's black levels are still very good by the standards of the projector world at large. They're just not outstanding.

## Picture heroics

My brightness-corrected Z1 revels in a number of other heroic picture achievements. Focus on these, and suddenly the effort spent installing this beast of a projector seems wholly worthwhile.

My eyes were drawn to a spectacular delivery of the detailing and sharpness we look for from native 4K displays. The Z1 reproduces every last detail of *Sully*'s ultra-crisp picture. You can scan the instrument displays in the cockpit of the ill-fated plane, or gawp at the ripples on the surface of the Hudson. And there's an enhanced sense of depth and scale to *Sully*'s shots across New York that comes from the image resolving a more distant horizon packed with detail. (You'll no doubt get even more depth when using the JVC in 3D mode, although the unit isn't boxed with any 3D spex).

**'My eyes were drawn to a spectacular delivery of the detailing and sharpness we look for from native 4K'**

Images are clearly much more pixel-rich and sharp than on JVC's e-Shift 4K models. They also appear cleaner, with none of the gentle fizzing noise or processing 'blur' that sometimes creeps in with e-Shift tech.

Subjectively, I'd rate the Z1's 4K pictures as slightly more detailed than those of Sony's native 4K projectors – partly, I suspect, because the Z1's laser array and D-ILA technology allow it to deliver a wider colour palette than is offered by Sony's more conventional 4K options.

The PJ's impeccable sharpness remains intact when there's lots of motion in the frame. Even during *Pacific Rim*'s





titanic fight sequences it avoids judder and blur outstandingly well.

Colour performance is simply stunning. The rich colourscape of *Pacific Rim*, especially during the sequences in the 'heads' of the Jaegers or the Shatterdome's control room, comes with a vibrancy I've not experienced on a domestic projector before. Subtler content, such as scenes in *Sully* in a hotel room, reveal almost infinitely fine colour tone gradations, free of striping or blocking.

Even 3,000 Lumens, it must be said, can't engineer the same sense of colour volume you get with HDR material on the brightest LCD TVs. But the Z1's stunning richness and finesse sit alongside such a respectable black level performance that there's still eye-opening impact from

4



## SPECIFICATIONS

**3D:** Yes. Active (no glasses provided) **4K:** Yes. 4,096 x 2,160 **HDR:** Yes. HDR 10; Hybrid Log-Gamma **CONNECTIONS:** 2 x HDMI inputs; 12V trigger jack; Ethernet; 3D sync port; RS-232 **BRIGHTNESS (CLAIMED):** 3,000 Lumens **CONTRAST (CLAIMED):** Infinity:1 **ZOOM:** 2.0x **DIMENSIONS:** 500(w) x 235(h) x 720(d)mm **WEIGHT:** 37.5kg

**FEATURES:** 4K D-ILA projector system; 20,000-hour claimed laser 'lamp' life; claimed 25dB fan noise in low lamp mode; 51ms input lag; full colour management system; Multiple Pixel Control (Enhance, Smoothing, Noise Reduction); gamma adjustment; Natural, Cinema, Film, THX, HDR, User 1-6 image presets; motorised zoom, focus and lens shift; +/-100 per cent vertical lens shift; +/-43 per cent horizontal lens shift; HDCP 2.2 on both HDMI inputs; 4K/60p playback

## PARTNER WITH



### SCREEN EXCELLENCE

**ENLIGHTOR 4K:** Give the DLA-Z1 a canvas to work with that's designed for 4K. Screen Excellence's ultra-fine weave material (also acoustically transparent) can be specified for screens up to 6.72m wide.

Ultra HD Blu-ray's wide colour gamut technology. The Z1 does achieve what it set out to do: deliver an HDR projector experience that not only doesn't suck but actually looks awesome for much of the time. Plus, of course, it delivers a sensational standard dynamic range performance with your non-4K Blu-ray collection. Move away from its HDR preset and there's a fine balance between light and shade, bolstered by efficient scaling to its 4K output.

I do have a few concerns to wrap up with. First and worst, unless you reduce its brightness to a point where its HDR picture really isn't very impressive at all, the Z1 clips detail and subtle tonal information out of the brightest parts of the image (depending on the material), leaving them looking slightly bleached out.

Second, the projector runs a little noisily in HDR mode, so managing this during installation is a consideration. Third, anyone seeking some high-end gaming thrills has to contend with a measured input lag from the Z1 of just over 50ms. This isn't shockingly high, but it's a tad tardy.

Finally, I question if the Z1 has enough overall brightness in HDR mode to satisfactorily drive a screen bigger than around 120in. And it's certainly a projector that will need to be installed in a completely blacked-out room.

## One more for the road

Overall there's no doubt the Z1 is a genuinely exciting product. It's another important step down the high performance HDR road for people who can't get by with a high-quality 80/85in TV. It's an SDR sharp-shooter, and rewarding with Ultra HD Blu-ray. I just can't help thinking that for all JVC's substantial efforts, it isn't quite as near-perfect as I'd like it to be if I was lucky enough to have £35k to spend on a projector ■

## HCC VERDICT



### JVC DLA-Z1

→ £35,000 → [www.jvc.co.uk](http://www.jvc.co.uk)

**WE SAY:** Bristling with tech and boasting an unprecedented colour performance, the Z1 is an eye-opening projector. But it's not the be-all and end-all when it comes to HDR playback.

**3. The back-plate houses inputs and menu controls**

**4. 'Blu-Escint' = JVC's branding for its laser lighting system**



# Getting personal with TV sound

**Steve May** quizzes Dolby's Mathias Bendull about its AC-4 codec, potentially the next landmark in broadcast audio

**THE NEXT TV** audio revolution will be personal, believes Dolby.

While Dolby Atmos and cinematic rivals DTS:X and Auro-3D have been about immersive multichannel listening, it seems another step

forward will offer rather more intimate delights. Dolby AC-4, the Next Gen Audio (NGA) proposal which is gathering momentum with broadcasters and consumer electronics companies alike, builds on the principles of object-based audio



to create something we've never had before: a completely customisable listening experience.

To learn more, HCC sat down with Dolby's Mathias Bendull (pictured), VP of Multi-Screen Services Audio. AC-4 is basically his baby...

### So why do we need AC-4? What does it offer that's new?

We wanted to do something that we could think about as a dual-ended solution. Because we designed AC-4 from scratch, this has allowed us to develop new ideas about encoding/decoding, to bring them together in an intelligent way.

To give an example: one of the broadcast challenges today is intelligibility of dialogue. There have been solutions which try to solve it, but on the device side only – typically boosting dialogue and muting music and effects. But a set-top box or TV has limited computational power, and a very short time-window to make things happen. What we can do now is pull this process into the encoding phase.

With AC-4 I can take whatever content I have and when I encode it, I can flag the dialogue. Then when I transmit that, the decoder in the TV is able to identify that flag automatically and raise the dialogue level accordingly. But it does it in a soft way that's not disruptive to the audience or the creative intention.

### Can you make this kind of on-the-fly adjustment within a surround soundtrack?

Yes, it's available for content mixed in 5.1. Dialogue is treated as an individual object. With NGA we move into a world where you have individual sounds from individual sources, like dialogue or specific effects – a helicopter flying overhead or a bird chirping. These objects can be delivered to the TV separately, where they are then mixed together. We have the opportunity to level the dialogue against the music and effects in the device. This means you can theoretically reduce the dialogue completely, or you can boost it to the level the listener wants.

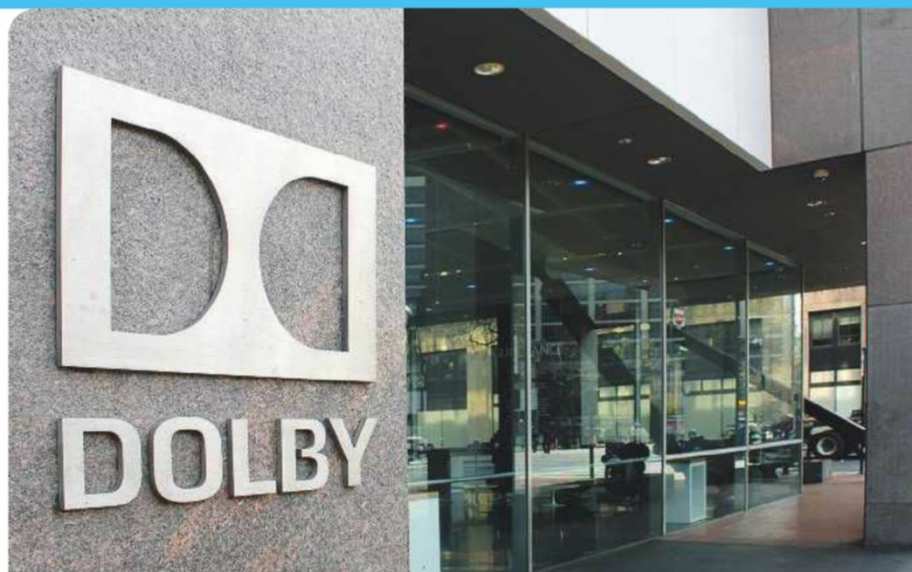
### Broadcasters don't use metadata like that yet...

No. Today, all content is produced as stereo or a 5.1 mix. Such object-based dialogue conversion hasn't happened yet. We still have to change a little bit in the production process.

### We foresee some consumer confusion between AC-4 and Dolby Atmos – the former supports the latter, but they're not the same thing – and Dolby Digital Plus...

AC-4 obviously supports Dolby Atmos, because it's something we designed. You have to think about Dolby Atmos as an experience that uses the technology which AC-4 supports – the concept of objects. The idea of dialogue enhancement is something that does not create dynamics or height or movement. It just takes advantage of the design of the codec.

It's object-based in a way we can't support with Dolby Digital Plus, it's a dual-ended solution. The



Dolby expects AC-4 to be standardised by next year and compatible TV hardware to follow in 2019

Atmos experiences we have today are delivered with Dolby Digital Plus, but we can go further than that, with personalisation.

### So the big new breakthrough is really compression efficiency?

If you start to think about delivering all these individual objects, let's call them mono tracks, at the same time, you need a very efficient solution to make this viable from a broadcast or pay-TV operator perspective.

### How many individual objects can you handle within AC-4?

We can handle 126 objects, but they are never transmitted at the same time. So from a practical perspective, on an STB or TV, we anticipate an environment of 11-12 objects, plus an additional 5.1 music and effects mix. So you basically end up with roughly 16-18 different audio tracks delivered at the same time. But in most cases it will never be that many. It might typically be 8 objects, plus a 5.1 track.

### This sounds great, but will we be sacrificing audio quality for improved functionality?

Well, AC-4 compression is twice as effective as Dolby Digital Plus. In terms of numbers, Dolby Digital AC-3 was 384kbps up to 448kbps, Dolby Digital Plus is between 192kbps-224kbps. AC-4 delivers the same quality for 5.1 at about 96kbps, so basically half.

So when you think about personalisation, we can deliver eight objects within the bit budget of Dolby Digital today, 384kbps.

### Presumably there's been a growing demand from broadcasters for greater bandwidth efficiency?

Broadcast is changing considerably. It's moving from a classical phase, into a phase where you need to reach as many consumers as you can wherever they are. Even where spectrum is available – satellite – we realise there's always a need for more. They want to add more services. So when they can save 96kbps-per-channel for each 5.1 audio track, that allows broadcasters to put out one additional audio channel.

AV gear is now arriving with a Dolby Audio badge – AC-4 will fall under this umbrella term





With AC-4 you'll be able to make your own Dolby Atmos soundtrack, choosing from whatever language tracks your broadcaster cares to offer

### Coming up with cool new toys is obviously different from making them a consumer reality. Where's AC-4 in terms of standardisation and adoption?

The standardisation process moves in different stages. The first step we took was to standardise AC-4 with ETSI (European Telecommunications Standards Institute), then we have bodies like the DVB who make decisions for a number of territories. AC-4 went through ATSC 3.0 standardisation and has been approved. In addition to that, there was a decision by the North American broadcast association to accept AC-4 as a Next Gen Audio solution for broadcast in North America and Mexico. In parallel, the DVB went through a

standardisation process for UHD which has included AC-4 in its toolbox, but that doesn't yet mean adoption for individual countries. But this is the normal process.

### It's early days, but who has pledged support so far?

We've had a number of announcements from key manufacturers about shipping AC-4-capable televisions into the market. Samsung and LG have made clear announcements, and we've had supportive statements from TP Vision, Sony and Visio. Chip manufacturer MStar MediaTek will supply solutions.

### Will consumers need to look out for TVs with AC-4 branding?

We have decided that we won't differentiate between different technologies any more – so the term is Dolby Audio. That includes AC-4. A Dolby Audio badge on a TV means that it can support any of a number of Dolby codecs. Most likely it will support all of them. I don't think the consumer really cares about the technology which underlies their audio.

### So when can we expect the first AC-4 services to begin, and the first compatible TVs to go on sale?

Broadcast standardisation will be concluded in 2017-2018. TVs will start following those standards a year later, which is the normal development cycle. So I would anticipate that we'll see the first commercial services in 2019. However, terrestrial trials in North America will take place next year. But we also engage with streaming and pay-TV operators, who have a different agenda. As they have complete control of their set-top box population, they can move quicker if they need to ■

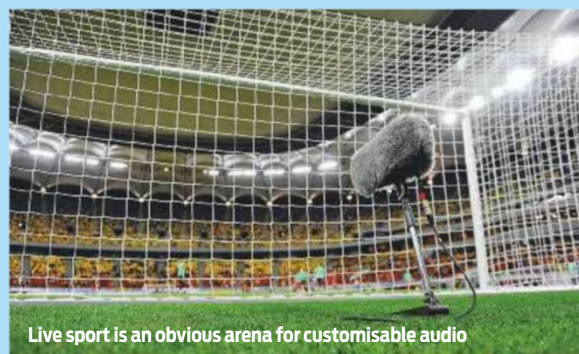
## Hands-on – and ears-on – with Dolby AC-4

Might football fans of the future get to enjoy team-specific commentary?

To get a handle on Dolby's Next Gen Audio experience, we kicked back with some encoded footy footage, running on a Sony TV kitted out with a demo AC-4 decoder. AC-4 was streaming from a server, with decoding happening live in the set.

The most obvious difference in terms of usability was a whole new raft of menu options. The set offered the opportunity to select different languages, English and Spanish, plus 'Home' and 'Away' commentaries. Bendull is quick to point out Sony's AC-4 UI implementation is little more than a proof of concept, and is unlikely to reflect any final product.

Using AC-4 is transformational. It brings a level of interactivity and involvement to the viewing experience that we've never had before. Switching commentary tracks is instant, while the crowd and ambiance plays unaffected. I also had the option to



Live sport is an obvious arena for customisable audio

switch off the dialogue completely, leaving just a surround mix of the stadium and on-pitch action. The bitrate is comparable to what we need for Dolby Digital 5.1 for today.

It's clearly an experience pay-TV operators, who have a strong focus on sports and live events, will want to offer subscribers.

'A lot of those audio feeds exist today,' explains Bendull, 'but they are not broadcast individually as there is no efficient way to do it. We basically structure TV sound into what we call elements. There is a 5.1 music and effects track, and then we add individual elements which we transmit as mono, such as dialogue and Audio Description tracks in multiple languages. The user then selects what they want, and it's presented as a combined 5.1 track.'

My AC-4 demo stream is actually an Atmos mix in a 5.1.2 configuration – so if you had an Atmos AV receiver or soundbar, you would get the height information, too.

'We believe the combination of Dolby Atmos with personalisation is the most appealing,' says Bendull. 'Any sport could become an Atmos mix with selectable commentaries.'



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# ULTRA HD BLU-RAY

## THE VERDICT





After its first year, has the new 4K home cinema disc format lived up to expectations? **Team HCC** runs the rule over the hardware and software that promise an AV revolution

**NEW HOME CINEMA** formats don't come around all that often. Ultra HD Blu-ray is the first physical media platform to give system owners pause for thought since 3D Blu-ray, itself now six years old. Anticipation before its launch was therefore high – would 4K discs (with HDR, too) make good on the promise of a genuine step-up in quality? Would studios hit the ground running with an extensive, desirable catalogue of titles? Would player and display hardware arrive well-featured, well-designed and well-priced?

We've now had a year to ponder all these questions and more. Read on... ➤





Sony's ZD9 – a direct-lit Ultra HD behemoth that remains the company's top-dog telly

## ULTRA HD TELEVISIONS

7/10

**VIEWING AN ULTRA** HD Blu-ray obviously requires an Ultra HD TV. The latter have been around for yonks, but are perhaps only now earning their crust (thanks to Netflix, Amazon, Sky, Wuaki.TV and games consoles also streaming in 4K). Yet it's fair to say that Ultra HD Blu-ray has upset the apple cart a touch. And it all boils down to HDR.

High Dynamic Range has been the format's secret weapon. When AV enthusiasts first began imagining a turbo-charged Blu-ray standard supporting 3,840 x 2,160 resolution, HDR didn't even cross our minds. It simply wasn't being talked about. Yet as the wait for 4K Blu-ray dragged on, HDR entered the frame (if you'll pardon the pun). And the challenge of delivering HDR video – as well as a wider colour gamut – has sent TV brands scurrying to their R&D labs.

HDR provides for greater levels of both shadow detailing and bright image detail. TV manufacturers like to demo it with bursting fireworks, hazy sunsets or dimly-lit rooms. In such instances, an HDR signal will find more info in dark and light areas, benefiting from a greater dynamic range. SDR, by comparison, will miss out on that extra detail and impact.

This is the theory at least. Yet not all TVs are created equal, and we're not just talking about OLED and LED variants. We've seen a backlight arms race take hold, with manufacturers striving to deliver the 1,000-nit-and-above peak luminance levels that Ultra HD Blu-ray content is mastered to. And such potent backlights – as seen on models such as Sony's ZD9 or Samsung's QLED TVs – need

marrying to precision. The efficiencies (or limits) of full-array local dimming systems and edge LED implementations have been ruthlessly exposed.

What are we talking about here? Clipped areas of bright detail in sets that struggle to hit the required nit levels; vertical light banding on edge-lit TVs when tasked with bright objects on dark backgrounds; haloes around objects when local dimming systems lack pin-point accuracy. Such criticisms – plus colour banding – crop up in our reviews as seemingly no one has mastered the art of unlocking the full potential of Ultra HD Blu-ray. This is a situation not helped by the static metadata approach of the HDR 10 standard, which essentially leaves a TV up to its own devices.

The good news is that such flaws are easily overlooked. Ultra HD Blu-ray can appear utterly gorgeous, and make traditional Blu-ray feel lifeless by comparison. And there's a very healthy range of screens to choose from, to the point where, even at this early stage, an Ultra HD Blu-ray experience needn't come at a premium.

AV enthusiasts will always salivate over the big-brand flagship models, but many will then turn their attention elsewhere. Spendthrifts can still get a convincing, rewarding 4K HDR experience from a step-down model. 2016 sets like Panasonic's DX750 range and Samsung's UEKS7500 bring obvious image quality improvements with 4K BDs over regular Full HD/SDR material, but won't break the bank. Those image quality niggles mentioned

Panasonic's DX750 series offers 4K thrills at sensible prices





earlier may be more pronounced, but far from disastrous, and the absence of a completely wide colour gamut on some affordable panels is easy to swallow – especially if you remember the money you've saved.

Non-HDR capable 4K TVs are being phased out. This is a welcome move, as Ultra HD Blu-ray looks its best with that extra dynamism in play. We wouldn't advise buying any TV now that isn't HDR ready.

Ultra HD Blu-ray is also giving new impetus to the OLED vs LED battle, as rivals – predominantly Samsung and LG – lay claim to why their technology is superior with the new disc source. It mostly boils down to nits. Improvements with OLED luminance still haven't brought it to the level achievable from LED-lit screens. At the same time, however, OLED still enjoys the true black advantage it always has. Choosing between OLED and LED needs to be based on preference – there's a more organic feel to OLED imagery that some will favour over LED light-cannons – and price. LED-lit TVs still dominate the mass market.

**OLED TVs are a compelling counter-argument to high-brightness LED models**



## The next step

8K is happening, but will Blu-ray follow suit?

Go to any consumer technology show and you'll see an 8K TV prototype. Some Chinese brands are promising sets coming to local markets within a year. Japanese broadcaster NHK wants to showcase the 2020 Olympic games at 7,680 x 4,320 resolution. The HDMI 2.1 spec supports it. Take all that onboard and you might think 4K is on the way out before it's even begun.

Our advice? Don't. While it's possible to imagine TV sales ten years from now jam-packed with 8K superscreens, physical media is unlikely to join a revolution driven by broadcast TV, high-end PCs, virtual reality and digital streaming. More likely is that Ultra HD Blu-ray does truly become the last disc-based format – and when you settle down to watch the latest Marvel blockbuster in 2030 in 8K, it won't be via a disc at all.

Nor does this mean that Ultra HD Blu-ray is doomed to a short life-span. Disc-based formats are proving resilient – DVD has reached its 20-year milestone – and software distributors and hardware manufacturers are more interested in selling to existing user bases than ripping up their business models. 8K may well be 'the future', but it won't suit everyone.

## ULTRA HD PLAYERS

The choice of 4K disc spinners, although slowly expanding via new players from LG and Sony, is limited. Thankfully, there's enough variance in price point to still have practically every consumer base covered.

If you haven't got a lot to spend and have little interest in using your player as a music machine as well, then Microsoft's Xbox One S, Panasonic's DMP-UB300 or Samsung's UBD-K8500 are all up for consideration. Build quality and user experience with these machines may be a little rough around the edges, but they bring Ultra HD Blu-ray playback to a wide market.

Oppo's UDP-203 works as an almost like-for-like replacement (minus Darbee Vision) of its BDP-103D deck, retaining SACD/DVD-Audio playback and HDMI switching, while Panasonic's DMP-UB900 brings hi-fi sensibilities and legacy connections to a full-width design.

The latter two are currently the priciest around, yet both sell for less than £700. Ultra HD Blu-ray players simply haven't arrived with the high price points that some feared, so we'll give a thumbs up here. Nor are there Profile 1.1/2.0 issues to worry about, as there were with Blu-ray.

But we still have some qualms. Firstly, there's the thorny issue of output selection. Using an Ultra HD Blu-ray deck comes with options to consider – 12-bit? 10-bit? 8-bit? 4:2:0? – that marry to the particular nature of your partnering display. Some players are flexible in their options, others less so. For mass-market consumers, it's probably a level of complexity they could do without.

Secondly, there's firmware to keep on top of. While preferable to the fiasco over Profiles that blighted Blu-ray's early years, having players undergo after-market tweaks illustrates an industry still coming to terms with the format. UDP-203 owners have already witnessed three firmware updates;

Panasonic is bringing a 10-bit priority mode to its UB900 and UB700 decks via firmware later this year.

Lastly, Dolby Vision support is the bane of all Ultra HD Blu-ray player buyers. This optional part of the 4K format specification (alongside mandatory HDR 10) remains an unknown quantity, as little software has been announced. When discs arrive, you'll also need a Dolby Vision-enabled TV to watch them.

So, do you need Dolby Vision, or can it be ignored? Well, if the TV you already own can handle the format, it makes sense to invest in a player with similar chops. If not, then don't worry about it, unless you plan on upgrading your TV before your deck. Just be careful to check specs when buying and don't think hardware companies are obvious when it comes to format loyalty – Sony's newest TVs may support Dolby Vision, but its UBP-X400 player doesn't.

**8/10**

**Xbox One S: Ultra HD Blu-ray player and games console all-in-one**



**ULTRA HD PROJECTORS****6/10**

For some home cinema fans, projection is their passion, and not even a super-size TV comes close. Bigscreen, lights down, feet up – sorted. The poor choice, and performance issues, of Ultra HD Blu-ray capable projectors is therefore a problem.

4K playback on projectors isn't new, arriving via Sony's SXR range in 2012, but the complementary support for HDR is more recent. Sony and JVC both introduced compatible models in advance of the Ultra HD Blu-ray player launch, while Epson and others have since followed. Yet working with the higher brightness demands of 4K HDR movies, while retaining strong base black levels, is proving something of a stumbling block. As you'll see in our review of JVC's DLA-Z1, even top-end models aren't immune.

And the resolution element of Ultra HD Blu-ray has slowed down the projector revolution, too. Currently, 3,840 x 2,160 home cinema projectors remain too expensive for the majority of home cinephiles to begin considering. Sony's most affordable 4K model – the VPL-VW320ES – sells from between £6,500-£7,500, which is hardly pocket-change. (It actually began life being more affordable, at around £5,800. Presumably

currency fluctuations are to blame).

You can get Ultra HD Blu-ray playback for less, of course. Epson and JVC will furnish you with HDR-ready models that employ 4K upscaling/pixel-shifting systems, plus the necessary HDMI connections, to spin a 4K disc. Start your auditioning with Epson's EH-TW7300 at £2,200.

4K DLP technology, from Texas Instruments (TI), could well be the saviour of this situation. With TI's chippery being used by a plethora of brands, the number of 4K projectors is set to expand, and with variety in pricing and specification to boot. Models such as Acer's £4,000 V9800 [see *HCC* #272] have given us a taster of what's to come.

At present, however, there's a big gap between the sizable projector market below and around £1,000 and the new 4K HDR options. Upgrading from your budget beamer requires a considerable outlay. For projector enthusiasts it's a bitter pill to swallow when they can see Ultra HD Blu-ray capable TVs on high street shelves for as little as £500.

The smart choice right now actually may be to go for a twin-screen setup.

**Epson's HDR projectors (top) use '4K enhancement' processing while Sony's VPL-VW320ES offers native 4K playback**



**4K DLP projectors have debuted this year**





## ULTRA HD BLU-RAYS

7/10

Software: any home cinema format lives or dies by its movie selection.

First, the good stuff. Ultra HD Blu-ray isn't suffering from wavering studio support or tedious exclusivity deals. With no immediate rival, a la HD DVD, to muddy the waters, 4K Blu-ray has had the weight of Sony Pictures, Universal Studios, Paramount Pictures, Twentieth Century Fox, Warner Bros and Lionsgate behind it from day one.

This all equates to a wide selection of movies. Sort of. Fans of big-budget franchises – *X-Men*, *Star Trek*, *Bourne*, *Fast & Furious*, those kooky Dan Brown movies – have been rewarded, while heavyweight standalone flicks such as *Deepwater Horizon*, *The Revenant*, *Oblivion*, *Mad Max: Fury Road* and *Everest* have all seen the inside of a 4K slipcase. Nor is the format being reserved for explosive fare. Every genre from stoner comedy (*Pineapple Express*) to gritty thriller (*The Town*) has been welcomed aboard.

One question immediately arises, though. Where's all the catalogue stuff?

Back-catalogue material, and by that we mean deep stuff, not just a Ben Affleck political drama from 2012 – is perhaps the particular concern of the die-hard AV enthusiast. The man on the street may be happy with Ultra HD Blu-ray releases being predominantly new movies, but we want it all, and our interest goes back decades. After all, wasn't the point of the new format to bring fresh life to old titles, and give us a chance to see, say, *Apocalypse Now* as it would have looked at the multiplex in 1979?

Sony Pictures, always a smart thinker when it comes to its library, is at least trawling archives and bringing out the likes of *Labyrinth* and *Crouching Tiger, Hidden Dragon*. We're grateful, but can't ignore the somewhat random nature of its selections. Other studios appear to have sights firmly set on the here and now.

This all means that any plan you may have had of upgrading your entire film library to UHD disc is going to be a slow-burner. And we wouldn't want to get your hopes up. The sad truth is that these days catalogue material is a hard sell on Blu-ray, and is the reason that

boutique labels, operating with limited edition policies and enticing collectors with natty packaging, are able to license titles from majors in the first place. There are films that we know exist with 4K masters still unannounced on UHD Blu-ray – look at collections on Amazon Prime and Sky Q. The avenue for catalogue 4K material, outside of the obvious big titles, could well be streaming. Disc replication cost = zero.

Moving away from film selection and on to image quality, and Ultra HD Blu-ray has been a rollercoaster of emotions. Some titles are so gorgeous to look at it hurts, others hurt in a different way.

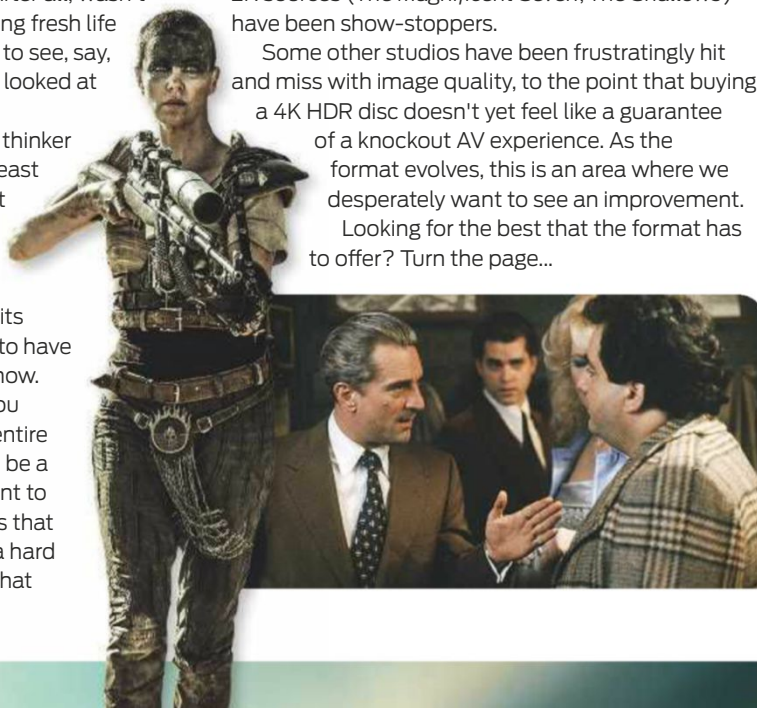
There are numerous factors at play here. The resolution of digital masters used, quality of encoding, HDR grading choices, superior or inferior cinematography... Mix these together with the image-affecting variances of Ultra HD TVs discussed earlier and it's easy to see why it's hard to nail down what a uniform Ultra HD Blu-ray image should look like. The end result is that we love discs for films we used to hate (*Angels and Demons*) and hate discs for films that we used to love (*GoodFellas*).

Applause again goes to Sony. Its titles based upon 4K masters derived from film (*Crouching Tiger...* for instance) have shown nuanced HDR grading and exquisite detail. Yet even its releases based upon 2K sources (*The Magnificent Seven*, *The Shallows*) have been show-stoppers.

Some other studios have been frustratingly hit and miss with image quality, to the point that buying a 4K HDR disc doesn't yet feel like a guarantee

of a knockout AV experience. As the format evolves, this is an area where we desperately want to see an improvement.

Looking for the best that the format has to offer? Turn the page...



## 4K or not 4K?

How Ultra HD Blu-ray has turned us into source snobs

For the most part, the traditional Blu-ray format was easy to get your head around. Its 1080p images were encoded from like-for-like 2K masters, either of film (be it 16, 35 or 70mm) or digital source. There was rarely a need to worry about upscaling.

UHD Blu-ray has changed all that, due to the fact that cinema's theatrical creation and distribution industries are not on the same page as its domestic software side. A 4K BD, some assume, will be based on a 4K master, but that's not always the case.

While catalogue titles originally shot on film and selected for UHD Blu-ray are likely to be mastered at 4K, more recent digital ventures (which are making up the bulk of new discs) can well exist in 2K form and nothing higher. And while disc collectors may expect new masters to be struck, there's a cost attached to that, and the original elements may not be of a higher resolution anyway. And then there's the fact that all those VFX shots were completed at 2K, too...

Eventually, the situation should resolve as directors plump for higher-than-4K source formats and 4K mastering becomes more common across the industry.

4K BDs for *The Magnificent Seven* (top) and *Mad Max: Fury Road* (left) have been based upon 2K digital masters. *GoodFellas* (left) used a 35mm-to-4K scan



# ULTRA HD BLU-RAY

**10 KILLER DISCS**



## **Lucy**

This ker-azy high-concept sci-fi thriller arrives on UHD Blu with an image that's as dazzling as Lucy's super-powers. While shot digitally with a mixture of different resolutions, it all comes together as a blisteringly sharp 4K image that warrants close inspection. Even better, Universal has resisted any temptation to over-push Luc Besson's naturalistic lighting into something more obviously eye-catching. Throw in richer colours and a pristine master and it's simply a better all-round experience than its Full HD SDR release.





### Angels & Demons

Pick this, or one of the other two entries in the Tom Hanks art-history-mystery series (*The Da Vinci Code*, *Inferno*) – all three are eye-opening introductions to the beauty of 4K Blu-ray. You want Ultra HD detail? This image oozes pixel punch, letting you bathe in the glory of director Ron Howard's Vatican City set design, or Hanks' steely grimace. Contrast is expansive, leaving the bundled 1080p version to feel dull and shut-in. Most importantly, it looks effortlessly natural.



### Crouching Tiger, Hidden Dragon

Sony Pictures' UHD release for Ang Lee's now 17-year-old martial arts fantasy boasts an image that just looks right. It's sharp without exaggeration, doesn't hide its 35mm origins, and finds extra detail in dark sequences while catching the eye with bright splashes of colour. That the effort has been made to remix audio into Dolby Atmos is the icing on the cake. All that's left to is sit back and enjoy the wire-work fight sequences.



### Fantastic Beasts and Where to Find Them

Warner has set the standard for its other UHD releases to follow with this wonderfully balanced 4K HDR picture. Shot digitally, mastered at 4K and then graded for UHD Blu-ray with a magician's sleight of hand, it captures the crafted beauty of the period New York setting, and scads of fine detail in its human cast and superior CG creations. Nuanced colours range from sparkling golds and deep, rich blues to cool whites.



### Labyrinth

Another Sony Pictures catalogue release that impresses due to its authentic feel. Scanning the original 35mm elements at 4K yields a sharpened image, but without hint of naughty grain removal. In fact, it's the grain levels here that may upset those who prefer their 4K slick and smooth. Get beyond that, though, and appreciate not only the improved detail, but the extra luminosity created in the HDR suite, and increased colour subtlety.



### Pacific Rim

A new Atmos soundmix is a factor in recommending this big-monster sci-fi for a rewatch, as is Warner's consistently involving 4K HDR upgrade. True, the original Full HD release is no slouch in terms of image quality, but this creates a future world that's even easier to lose yourself in. Detail levels are high, but it's the dynamic nature of the picture that really stands out, with deep blacks and searing neon hues. No 3D option, of course, but *Pacific Rim* in UHD still packs plenty of depth.



### Planet Earth II

Give your cinema room a change of pace with the BBC's peerless natural history doc – it'll have you wishing 4K HDR broadcasts weren't just an idea for the future. The wonders of the world are on full display here, and the six-episode series frequently produces jaw-on-the-floor moments of visual splendour. There's depth, detail, colour subtlety, black level punch and smooth blends in abundance, buoyed by the Beeb's craft in weaving it all together.



### The Revenant

Perhaps the first absolute must-have UHD title, which sees the achingly beautiful, Oscar-winning cinematography of Emmanuel Lubezki turn this harrowing drama into a feast for the eyes. Famously shot using only natural light sources (sunshine, fires, candles, etc), it's a sumptuous demo disc awash with vibrant greens, lurid reds and icy whites, and a wide dynamic range. Clarity is excellent, too, with markedly more detail than in the also great-looking 1080p release.



### Star Trek

Beam yourself up to a colour-rich, high-brightness sci-fi spectacle where inky black space truly looks inky black and even director J.J. Abrams' overuse of lens flare effects almost makes sense. Yes, this is based around a 2K master, but it never feels like anything less than a worthwhile upgrade; colour and contrast increases are joined by finer appreciation of textures. Both sequels (*Star Trek Into Darkness* and *Star Trek Beyond*) also scrub up well, too.



### X-Men: Apocalypse

The most recent *X-Men* adventure is a good showcase for how attractive a modern title can look on 4K disc. Source quality plays its part here, as the movie was lensed digitally at above 4K resolution and mastered at 4K – albeit with heaps of lower-res FX work – but the impact also comes from the lush, vivid wide colour grading and HDR details. Primary colours are pushed high, ensuring a comic book image with plenty of pop. It's clinically clean and crisp, too.

# Projector den proves its quality

The owners of this professionally-designed basement cinema room weren't sure a projector could offer the picture thrills they wanted. Now they're happy they've left their TV behind



## SHARP SHOOTER

Send your cinema to war with *Hacksaw Ridge* on Blu, p94

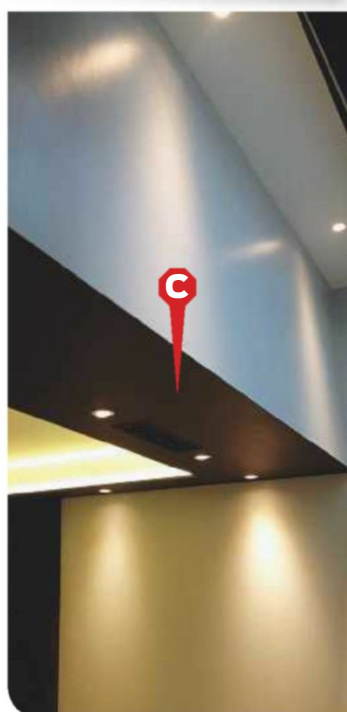




The installers took on the project when the room was a bare concrete shell, giving them plenty of design flexibility



The screen wall – half-built at this stage – hides three KEF speakers and two subs, each given their own MDF back box



**PROJECTORS CAN BE** a hard sell. Experiences with washed-out PowerPoint presentations, or out-of-focus shop-floor advertising, live long in the memory. The owners of this basement cinema wanted to go bigger than a TV for their home entertainment, but were sceptical that a PJ could deliver the goods. 'They wanted a bigscreen movie experience but needed reassurance, having only experienced cheap office projectors in the past,' says install outfit M.E.G.A. AV. Thankfully, a demo proved the quality available from a mid-range HD model, Panasonic's PT-AT6000E.

The PJ aims at a 110in screen, flush-mounted into a stud wall that also hides the front three KEF speakers, plus two subwoofers, in the room's 5.2-channel array. The projector itself is built into a custom cabinet, with cut outs for lens and ventilation, neutralising fan noise and keeping hardware discreet. Such discretion applies to the rest of the AV kit: TiVo box, BD player, AV receiver, subwoofer amp and more are racked out of sight.

The owners say the room has 'turned out better than we imagined' and 'beats watching a movie on a TV any time'. Consider that a win for the Panasonic projector... ■

#### A. Pride of place

The projector screen is a fixed-frame 16:9 model from Screen Excellence

#### B. On reflection

Soundtect acoustic panels on the side walls address early reflections, helping to improve imaging and clarity from the front soundstage

#### C. Lighting the way

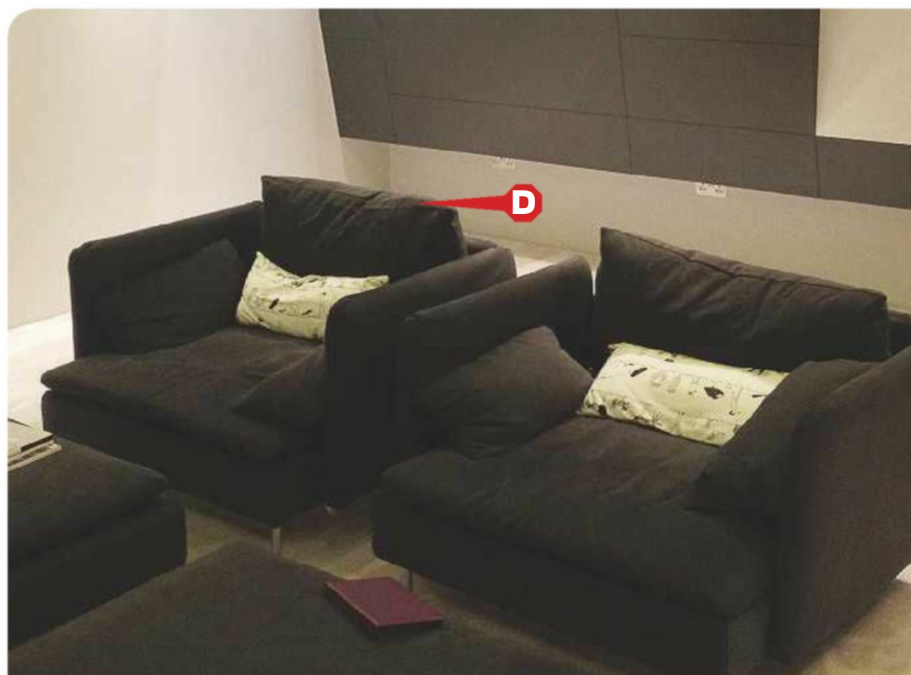
The ceiling coffer is used to house speakers and LED strip/downlighting, while retaining as much height as possible

#### D. Sitting pretty

There are no cinema-style recliners here, with the owners instead opting for a pair of capacious chairs with footstools

#### KIT CHECKLIST

**SCREEN EXCELLENCE:** 110in projector screen with acoustically transparent material  
**KEF:** In-wall/in-ceiling Ci series speaker array (5.2)  
**KEF:** KASA500 two-channel subwoofer power amplifier  
**ONKYO:** TX-NR737 AV receiver  
**PANASONIC:** PT-AT6000E Full HD projector; Blu-ray player  
**VIRGIN MEDIA:** TiVo cable TV set-top box  
**APPLE:** Apple TV player; iPad for system control running iRemote Control app  
**SONOS:** 2 x Connect:Amplifiers  
**RAKO:** Lighting modules  
**SOUNDETECT:** Acoustic panels





**E. A room with a view**

The adjacent home office has line-of-sight to the projector screen

**F. As easy as Apple...**

All cinema hardware and lighting is controlled via the owner's iPad, which runs iRemote Control software. The tablet also links to CCTV elsewhere in the house, meaning peace of mind when the family has settled into the basement

**G. Undressed to impress**

The in-ceiling KEF speakers (Ci4100QL models) have been installed without their grilles attached for a neat visual detail

**H. Power, packed**

The kit-rack, housed in a small, ventilated cupboard space, includes Sonos amplification, source gear, Onkyo AVR and a dedicated two-channel KEF power amp for the room's in-wall subwoofers







HARPENDEN • EDGWARE • BECKENHAM



Photo: Musical Images Installation

## THE FUTURE IS CLEAR

Experience the stunning new JVC DLA-X5500 4K projector at Musical Images – class leading brightness, a new low latency mode to reduce frame delays, e-shift technology for stunning realism and the highest contrast ratios in the industry.

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# REVIEWS

→ **HARDWARE** **SAMSUNG** QLED arrives in the shape of the 65in QE65Q9F **BENQ** 4K LED DLP projector, but where's HDR? **REL** 12in Super High Output subwoofer **SONOS** Playbase multiroom speaker **AMAZON** Voice-powered Fire TV streamer **HUMAX** Networked Freesat receiver **SAMSUNG** Premium single-enclosure soundbar **NINTENDO** Next-gen console & MORE!



## Sign of the times

Polk's entry-level Signature Series aims to bring a big performance to those on smaller budgets. We reveal how they measure up on p48...

HCC RATINGS KEY...	
Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

## AV INFO

**PRODUCT:**  
65in 4K HDR TV  
using 'QLED'  
technology

**POSITION:**  
At present, this is  
Samsung's flagship  
65in TV for 2017

**PEERS:**  
LG OLED65E7V,  
Sony KD-65A1

Is Samsung's flagship 'QLED' TV a definitive OLED killer? **John Archer** finds out

# Seconds out, round one...

Samsung's ongoing campaign to see off the OLED TV tech championed by rival Korean brand LG has ramped up significantly this year, with the launch of QLED: the OLED-baiting name Samsung has chosen for the ground-breaking technology inside its latest high-end TVs. Our first look sees it dressed up in a 65in bezel, with a price tag pretty much identical to its same-sized OLED rivals. Looking for a tech war? You've found one.

The Q part of QLED refers to the way these new displays, including the QE65Q9F flagship auditioned here, use Quantum Dot (QD) technology to reproduce colours. Samsung has used Quantum Dots before, but the difference now – and the reason it has replaced its previous SUHD sub-brand designation with QLED – is that the QDs come wrapped in a new metal alloy that lets them be driven harder and positioned differently within the screen configuration, resulting in what are claimed to be unprecedented levels of brightness and colour response.

Dedicated followers of AV fashion will have heard of QLED before. The phrase was originally attached to an experimental form of LCD technology where each pixel crafted its own light. Samsung's version of QLED is still based on traditional LCD panel lighting systems, with the QE65Q9F being driven by edge-mounted LEDs firing across (rather than down/up) the screen.

Samsung is encouraging any TV brand that's using Quantum Dot technology and LED illumination to use the QLED name. But the metal-coated Quantum Dots are currently unique to the company.

Why so much fuss about Quantum Dots? The main arguments are that they allow a screen to deliver more accurate, intense colours (from a blue LED light source) and run more efficiently than the traditional colour filter/white LED LCD TV approach.

## A side-dish of LED

Given that Samsung has often used direct backlighting (where LEDs sit right behind the screen) for its flagship TVs, it's a surprise that the QE65Q9F adopts an edge-lit approach. The lighting's horizontal orientation, though, should mean there's less potential for light interference in the black bars found with 2.35:1/2.0:1 movies, than you get with more common vertical edge systems. Especially as the

lighting system employs local dimming to deliver different levels of illumination to different parts of the screen.

Samsung thinks the brightness potential of this lighting system is worth shouting about. It claims 2,000-nit peaks for the QE65Q9F – the highest the TV world has yet seen. I 'only' measured around 1,780 nits on a 10 per cent HDR white window, but this is still comfortably the highest figure I've witnessed.

The QE65Q9F claims colour handling talents that reach almost 100 per cent of the DCI-P3 colour space used in commercial cinemas, as well as more of the real-world colour volume you get when huge dollops of brightness are added to the mix. The close relationship between light and colour lies at the heart of HDR's appeal.

The TV's QLED panel is driven by a new Q Engine processing system. As always, this is a step-up from systems of yesteryear, offering 30 per cent more power. Support is present for HDR 10, HLG and HDR 10+ content, but not Dolby Vision.

Samsung's design team has gone in a new direction this year. The set's glossy rear panel is as flat and sheer as its front, while its inch or so of depth joins with some outstanding, almost industrial build quality to deliver a monolithic impact Arthur C Clarke would be proud of. It looks mean and ready for business, a far cry from the curved, quirky TVs of previous ranges.

The ultra-minimalistic look isn't even spoiled by cable spaghetti, since Samsung ships the set with an external connections box that hooks to the TV via a single, super-thin, semi-transparent cable. This box houses connections for HDMI, USB and Wi-Fi/Ethernet.

When it comes to smarts, you're safe in the hands of Samsung's latest 'Eden' user interface, which is slick, economical and customisable. And it's backed up by a strikingly straightforward, wide-ranging and effective voice ➤

1. A remote so new-fangled that it arrives with stickers telling you how to use it...

2. The TV is currently only offered in this 4K-friendly 65in guise







**ACTION STATIONS**

Can *The Great Wall* hold off a monster invasion? p99





control system. Online TV services include 4K HDR versions of YouTube, Netflix and Amazon, but while you get the BBC iPlayer and ITV Player, you don't currently have access to the All4 or My5 catch-up platforms. YouView or Freeview Play would be welcome additions here.

### Bright star

This TV is, as advertised, insanely bright. With both *Miss Peregrine's Home for Peculiar Children* and *Planet Earth II* on Ultra HD Blu-ray, I was instantly aware of the Samsung's unprecedented luminance. *Planet Earth II*'s many sun-

**'With bright scenes in particular, Samsung's QE65Q9F reaches part of the image other TVs just can't'**

drenched sequences, in particular, tickled my retinas, with the QE65Q9F's ability to deliver more of that real-life, naturalistic brightness reaping rewards.

In fact, watching the sequence where eagles fight over lunch on a snowy mountain is probably the single most dazzling HDR experience I've ever had, and the scintillating peaks are joined by huge amounts of detailing in the eagles' feathers and (dead) fox's fur, courtesy of the set's native 4K resolution and powerful picture processing. Extreme sharpness is delivered without the slightly noisy, edge-exaggerating effects that I've seen with the out-of-the-box settings of previous Samsung TVs.

The more showy of nature's wonders in *Planet Earth II* and the almost luminous quality of some of Tim Burton's cinematography in *Miss Peregrine...* showcase a pretty wondrous colour performance from the QE65Q9F. QLED's brightness and colour range make the image feel more open and expansive, thanks both to the huge range of tones covered and the finesse with which every tiny gradation is (usually... more on this later) managed.

With bright scenes in particular, such as one in *Miss Peregrine's* garden, the QE65Q9F reaches parts of the image other TVs just can't, introducing a new appreciation for the twin assault of high dynamic range and wide colour gamut technologies that are, for me anyway, Ultra HD Blu-ray's killer features.

The TV also does a mostly very good job of endowing those ultra-bright, ultra-rich HDR images with good black levels by LCD standards. Black bars above and below wide aspect ratio films are almost completely free of grey striping or shifting black levels.

Black levels go from good to outstanding when you're watching standard dynamic range Blu-rays or broadcasts. This is especially true if you avoid the TV's HDR+ system, which is designed to morph SDR into something resembling HDR. HDR+ is still actually rather watchable, considering it's easily the most aggressive such engine I've come across. Other brands' engines are more subtle.

For all its literal brilliance, though, the QE65Q9F's QLED technology doesn't magically dispense with some of LCD's traditional problems. For instance, dark *Miss Peregrine* shots featuring the occasional bright highlight,



4



such as those surrounding the attack on Jake's grandfather, can cause some gentle but noticeable bars of grey light to travel across the picture, because of the edge-mounted backlighting.

This light pollution can also sometimes be sufficient to reduce colour saturations and obscure subtle shadow details.

Another disappointment is the way contrast and colour reduce if you watch the QE65Q9F from much of an angle. Samsung initially claimed QLED would fix LCD's viewing angle issues, but for some reason this potentially winning feature has gone AWOL on this debut set.

## Making new resolutions

Anyone in the market for a £5,000 TV will no doubt be doing a lot of 4K viewing, but hi-def is still a diet staple of broadcast TV and disc collections. On this 65in canvas, non-4K material remains well-resolved, with detail and sharpness in abundance and a minimal amount of exaggerated source noise, ringing or motion lag.

In fact, motion generally is handled well with 4K or HD sources even without activating the TV's motion processing, ensuring you'll always feel keenly aware of the high pixel-count the screen has at its disposal.

5

## SPECIFICATIONS

**3D:** No **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR 10; HLG; HDR 10+ (via later firmware update) **TUNER:** Yes. Freeview HD **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; optical digital audio output; RF input; Bluetooth headphone support; Ethernet port; proprietary TV link connection **SOUND:** N/A **BRIGHTNESS (CLAIMED):** 2,000-nit peak **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,450(w) x 829(h) x 24.9(d)mm **WEIGHT (OFF STAND):** 29.1kg

**FEATURES:** Built-in Wi-Fi; Q Engine processing system; One Remote Control technology; Voice control system; external connections box with single 'invisible' cable to TV; QLED metal Quantum Dot technology; USB/DLNA media playback

## PARTNER WITH



**SAMSUNG HW-MS650:** A style match for the Q9F TV, this is Samsung's premium (£600) single-box soundbar solution, and it's worthy of the price tag. No Dolby Atmos, but expandable to 5.1 via optional gear – see page 56 for our full review.

A final remarkable talent of the QE65Q9F is the dynamism of images when viewed in a bright room. Samsung has introduced new screen filtering technology for its QLED models, and it works well. This startling 'full HDR impact in ambient light' ability is ultimately the TV's single most stand-out advantage over OLED.

Back in the negative column, though, is the peculiar appearance of colour banding in some HDR picture areas that contain a lot of subtle colour gradations. Think heavily saturated skies (such as the reddish tones of Mars in *The Martian*), underwater scenes, misty/dusty clouds and so on. This issue doesn't crop up often with normal video viewing, but it's more common with HDR gaming, and whenever it does appear it's certainly distracting. Particularly as for most of the time the QE65Q9F's colour handling is so pristine.

For a TV that doesn't contain any visible speakers, audio quality is surprisingly good. High volumes can be hit without fear, and there's plenty of detailing during the climactic showdown in *Miss Peregrine's Home For Peculiar Children*. Voices could be clearer when the going gets tough, however, and the sound lacks the direct aggression you get with TVs that feature forward-facing drivers. But it's a fair effort overall for such a design-conscious TV.

## Generation Q

It's customary for Samsung to push the TV technology envelope aggressively with each new generation of display. The QE65Q9F continues that trend with often spectacular results, especially for people looking for a TV to view in a bright room. There are certainly a few areas for Samsung to work on for 2018, and fans of dark-room movie viewing may still find their heads turned by similar priced OLED models. There's no doubt, though, that QLED represents an enthralling new addition to the TV landscape ■

3. The Q9F uses a horizontal edge LED lighting array

4. As usual with a high-end Samsung TV, connections are on an external box

5. Samsung has gone for a monolithic, square-edge design

## HCC VERDICT



### Samsung QE65Q9F

→ £4,900 → [www.samsung.co.uk](http://www.samsung.co.uk)

**WE SAY:** Samsung's new QLED technology gets off to a dazzling – if not quite perfect – start. And it takes HDR video to places it's never gone before.

48 POLK SIGNATURE 5.1/£1,450



1

HOME CINEMA CHOICE JUNE 2017

**HOME**  
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Choice  
**RECOMMENDED**



This 5.1 system loves nothing more than a full-throttle surround mix. As does **Danny Phillips**

# Polk pack puts up a fight

In the four decades since it was founded, American audio-meister Polk, based in Baltimore, Maryland, has, as it puts it, been dedicated to 'researching, engineering and innovating toward new sonic revelations'. Its Signature series, although its new entry-level, carries some of these refinements.

This affordable 5.1 speaker system is equipped with Polk's bass-enhancing PowerPort technology, a Dynamic Balance driver array and an unusually slim centre speaker that can be squeezed into tight spaces under your TV.

On front channel duties in this £1,450 array is the S50, the smallest of three floorstanders in the Signature range (alongside the S60 and S55). The skinny centre speaker in question is the S35, which packs no fewer than seven drivers into its 4in-high frame. Surround sound is delivered by a pair of S10 satellites, again the smallest model in a range of three.

The current absence of a dedicated Signature subwoofer (one is due around the end of the year) leaves a sub-shaped hole that Polk's PSW110 is more than happy to fill. It joins the team brandishing a 10in driver and 200W of power in the tank.

## American Modern, anyone?

At 95cm the S50 is a little short for a floorstander (as Leia might have said) but that merely heightens its living room acceptability. And the design is unashamedly contemporary, with a smart black-washed walnut finish and a gleaming gloss-black panel framing the drivers. An anti-diffraction magnetic grille preserves the minimal look and snaps satisfyingly into place. It's a stark, striking aesthetic (dubbed 'American Modern') but curved edges soften things up nicely.

A gap in the cabinet's base channels Polk's PowerPort system, a bespoke design that increases the port's surface area, which, says Polk, eliminates turbulence and distortion and boosts bass response by 3dB.

Dual-floor feet allow the S50 to be placed on carpet or hard floors without the need to faff about with spikes. I love their convenience and eye-catching silver finish, which enhances the modern vibe. On the back you'll find gold-plated bi-wirable binding posts.

The midbass drivers used across the system are made from dual mica-reinforced polypropylene, said to offer high

efficiency and a linear response, as well as lower distortion. Meanwhile, newly-designed 1in Terylene tweeters extend high-frequency response up to a claimed 40kHz. The Signature range boasts of 'Hi-Res Audio' certification.

The S50s employ two such drivers, while the S10 surrounds feature a 4in version.

The S35 centre uses six 3in midbass units, three placed on either side of the tweeter. The centre speaker is every bit as attractive as the S50, and its long, slim cabinet did prove easy to slide into a shelf on my AV rack (there is another more traditionally sized centre – the S30 – in the range).

All of the speakers feature robust, rigid MDF enclosures that feel well put together. The remarkably compact S10 (just 21cm high) caters for wall-mount configurations via rear keyhole fixings and threaded inserts.

The PSW110 sub is also fairly compact and sports an understated black finish (it also comes in cherry). A 10in front-firing woofer is coupled with a tuned downward-firing port that leverages your floor to achieve maximum bass impact. Terminals include LFE, line-level and speaker-level inputs, plus speaker-level outputs – the latter two using, oddly, spring-clip connectors. Phase, volume and crossover controls sit on the back plate.

## Upfront and boisterous

I put the Polks to the test with *Rogue One* on Blu-ray and they easily capture the excitement of the *Star Wars* spin-off's chaotic battle scenes. The Signatures', er, signature sound is upfront and boisterous, the perfect character for blockbuster movie viewing; the vigorous bangs and crashes grab your attention and keep you immersed in a galaxy far, far away.

Skip to the beach battle on Scarif and from the off the Signatures enthral you with crisp, crunching explosions and roaring X-Wing thrusters. Sudden blaster shots that send Stormtroopers cartwheeling through the air are dispatched with body-jolting force. The dynamics and power on offer are remarkable for the money.

### AV INFO

**PRODUCT:**  
5.1 floorstanding system from Polk's newest range

**POSITION:**  
Entry-level, below the RTi and TSi ranges

**PEERS:**  
Dynaudio Emit 5.1; DALI Opticon 5.1

**1. This array uses the baby models in the Polk Signature range**



2

The system's scale is also off the chart. It generates a huge soundstage with waves of deep, omnidirectional bass rippling through the room. The PSW110 subwoofer might be the outsider in this setup, and its specs aren't much to shout about, but it doesn't seem out of place, fusing seamlessly with the Signature towers. The explosion that wipes out Bodhi on the beach has a visceral wallop, while colliding Star Destroyers rumble heartily.

This package skilfully organises *Rogue One*'s multichannel soundmix, deploying effects accurately and allowing X-Wings to zoom between timbre-matched drivers without any change in tone. This is a cohesive, balanced wall of sound, enhanced by crisp, precise surround input from the S10s.

Despite its unusual design, dialogue comes through the S35 centre in a direct, well-rounded manner. Any worries I had about the multi-driver array lacking coherence were allayed. Radio commands can be easily heard over the din of battle, and the speaker retains the familiar lilt in James Earl Jones' ominous dialogue.

**'This package skilfully organises *Rogue One*'s soundmix with a cohesive, balanced wall of sound'**

Bringing things back down to earth with *Kingsman: The Secret Service* (UHD Blu-ray), the Polk system again flexes its muscles during the hyper-violent pub-fight scene. The soundstage fizzes with smashing glass, snappy gunshots and crackling tasers, which all adds up to a thrilling listen.

There's plenty of detail here, too. From Samuel L. Jackson's lisp to the trickle of water filling the Kingsman dorm, the level of clarity is impressive.

Admittedly, the Polks' bold approach won't suit all tastes. Things got a tad shouty when I pushed my Onkyo AVR higher, which drowned out some of those finer details. It's not unbearable, but I did find my finger sitting nervously over the volume controls.

Those looking for more refinement and polish from their movie soundtracks might be better off sizing up something from the likes of Monitor Audio or DALI. But if it's pure,

## SPECIFICATIONS

### S50

**DRIVE UNITS:** 2 x 5.25in midrange drivers; 1 x 1in Terylene tweeter **ENCLOSURE:** Down-ported (PowerPort) **FREQUENCY RESPONSE (CLAIMED):** 33Hz-40kHz **SENSITIVITY (CLAIMED):** 89dB **POWER HANDLING (CLAIMED):** 150W **DIMENSIONS:** 260(w) x 950(h) x 279(d)mm **WEIGHT:** 14.51kg

### S35

**DRIVE UNITS:** 6 x 3in midrange drivers; 1 x 1in Terylene tweeter **ENCLOSURE:** 2 x PowerPorts **FREQUENCY RESPONSE (CLAIMED):** 53Hz-40kHz **SENSITIVITY (CLAIMED):** 88dB **POWER HANDLING (CLAIMED):** 150W **DIMENSIONS:** 619(w) x 104(h) x 154(d)mm **WEIGHT:** 6.35kg

### S10

**DRIVE UNITS:** 1 x 4in midrange driver; 1 x 1in Terylene tweeter **ENCLOSURE:** PowerPort **FREQUENCY RESPONSE (CLAIMED):** 67Hz-40kHz **SENSITIVITY (CLAIMED):** 87dB **POWER HANDLING (CLAIMED):** 100W **DIMENSIONS:** 137(w) x 213(h) x 158(d)mm **WEIGHT:** 2.72kg

### PSW110 (subwoofer)

**DRIVE UNITS:** 1 x 10in Dynamic Balance composite cone woofer **ENCLOSURE:** Vented downward-firing port **FREQUENCY RESPONSE (CLAIMED):** None given **ONBOARD POWER (CLAIMED):** 200W **REMOTE CONTROL:** No **DIMENSIONS:** 362(w) x 368(h) x 431(d)mm **WEIGHT:** 15.2kg **CONNECTIONS:** LFE input; stereo phono line-level input, speaker-level springclip input and output

## PARTNER WITH



### DENON AVR-X4300H:

Available for around £900, this nine-channel AVR from Denon (now part of Polk's parent company Sound United) has an energetic delivery, Atmos/DTS:X smarts, Audyssey EQ and up-to-date connectivity.

unbridled entertainment you crave and don't mind it a little ragged around the edges, then the Polks should be right up your alley.

The S50 towers are still impressively musical in stereo. Spinning *Deacon Blues* by Steely Dan, the PowerPort-aided bass response is as advertised, delivering more than enough low-end heft without the subwoofer's involvement, resulting in a rich and full-bodied sound. Bass notes are tight and overall timing is excellent.

It's not lacking in detail either – ticking hi-hats and strummed guitar are clear and precise. The soundstage gives the various solos plenty of room as they dance in and out, while Donald Fagen's double-tracked vocal sits nice and prominently in the centre. The only flaw is a hard edge to the sax solo, but it's a strong performance overall.

So if you're looking for a stylish and reasonably-priced 5.1 system that delivers maximum bang for your buck then this Signature pack is worth a punt. It gets a little too boisterous when you push the volume to ASBO levels but that's a minor negative in a sea of positives. It's good value, and won't fail to bring a smile to your face come movie night. Where do I sign? ■

## HCC VERDICT



### Polk Signature Series 5.1

→ £1,450 → [www.polkaudio.com](http://www.polkaudio.com)

**WE SAY:** Polk's snazzy, innovative speaker system serves up music and movie tracks with verve and vigour, but does lack the outright polish and composure of its peers.

**2. The S35 centre channel has been designed to sit well with a flatscreen TV**



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BenQ's debut native 4K DLP projector makes its pixels count, but **John Archer** has other concerns

# Bigscreen 4K spreads its wings

Typical. You wait years for anyone other than Sony to do a native 4K projector, then three turn up at once. In our last issue we tested Acer's V9800. Elsewhere this month we look at JVC's debut native 4K machine, the DLA-Z1. And here we have BenQ's first true 4K effort.

The X12000 (£8,150) uses a native 4K single-chip DLP projection system from Texas Instruments to deliver its Ultra HD thrills, and seeks to stand out from the sudden 4K DLP crowd by using a Philips ColorSpark LED lamp, rather than the more standard UHP affair. It also stands out from most of its native 4K projection peers, though, by not supporting HDR.





This seems a bit of a weird omission to some extent. The Philips LED engine is designed to deliver more brightness and colour response than normal lamps, and the X12000 carries a colour mode that's reckoned to cover 95 per cent of the wide colour DCI-P3 range. So it would seem a natural fit for HDR. It has to be said, though, that the HDR projector landscape is littered with pitfalls, so I can understand BenQ deciding to play it safe with its first 4K model.

The X12000 gives you a lot of kit for your money. It's much wider, deeper and longer than your average home cinema projector, while its near-19kg weight pays testament to its ultra-sharp 14-element lens array.

Like the JVC Z1, it wears its size well. Its rounded sides, curved cooling grilles to either side of the lens and distinctive wide silvery strip breaking up its black top-edge make it more attractive than a projector likely destined for a blacked-out cinema room needs to be.

A 1.5x zoom and manual horizontal and vertical image shifting wheels make it relatively easy to get the X12000's images correctly positioned on your screen. Yet the lens adjustments really should be motorised at this price.

The LED lamp is reckoned to last for 20,000 hours, so you don't need to worry about replacement.

## Picking out pixels

The way the X12000 achieves its native 4K resolution does my brain in. It somehow delivers 8.3million pixels from 'just' 4.15million DLP device mirrors by displaying each physical pixel twice per frame courtesy of an optical actuator. Er, right.

While this sounds suspiciously like a pseudo-4K fudge on paper, watching the pristine 4K images of *X-Men: Apocalypse* reveals that the system really does work.

There's a gorgeous-looking sequence in the superhero caper where Cyclops destroys Xavier's 'favourite tree' in the gardens of the X-Mansion. It looks every bit as crisp, clean and, above all, detailed as on any other native 4K projector. You can trace every leaf on every tree, every pore on every face, every weave and texture in every outfit – basically all of the minutiae that makes us swoon so much over 4K.

In fact, I'd say the X12000's detail levels look actually slightly better than those of Sony's sub-£10,000 4K beamers, and at least on a par with the JVC Z1.

## AV INFO

**PRODUCT:**  
Native 4K single-chip DLP projector

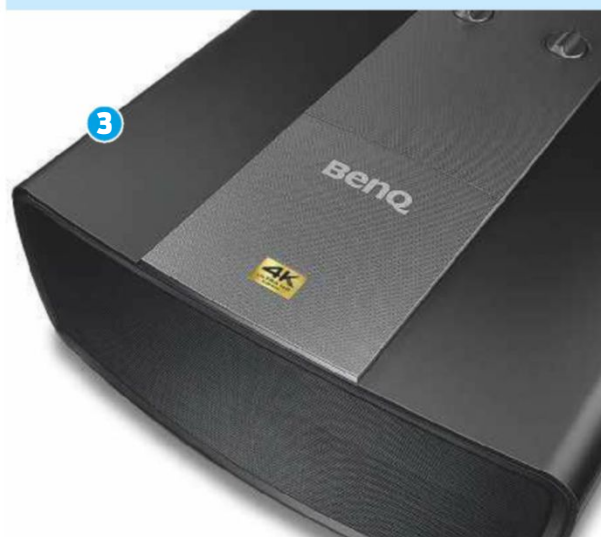
**POSITION:**  
BenQ's highest-spec model, above the also-4K W11000

**PEERS:**  
Sony VPL-VW320ES;  
JVC DLA-X7500;  
Acer V9800

1. The X12000 uses a Philips LED lamp to create a 2,200 Lumens brightness output

2. Only one of the two HDMI inputs is v2.0/ HDCP 2.2-enabled





Boosting this sense of clarity is the X12000's nuanced approach to colour shade and tone, as evident in *Apocalypse's* Egyptian street sequences. This fine colour management helps the image enjoy an excellent sense of depth and space, too.

Another strength of this 4K DLP contender is its brightness. Its images shine forth more impactfully than I would normally expect from even a 2,200 Lumens projector, giving dramatic intensity to bright, colourful scenes such as *X-Men: Apocalypse's* climactic, city-ruining super-scrap. You're left thinking that all this illumination on tap might have helped the X12000 deliver an above-par HDR performance if BenQ had decided to support it. But there you go.

This brightness doesn't come at the expense of shadow detail. On the contrary, the projector picks up subtleties in dark image areas without making that detail look bolted on. Fizzing noise in such areas is also absent.

### On the other hand...

So there are times when the X12000's pictures look mesmerisingly good. But there are also a few too many instances where things don't look so hot.

Most obviously, while darker sequences enjoy plenty of pixel info, they tend to look rather grey. The black level response here is limited (as was the case with Acer's more affordable V9800 rival).

I'm also rather baffled by the DCI-P3 colour mode. Yes, activating the feature (which is delivered via a combination of proprietary BenQ processing and the Philips ColorSpark LED lamp) can open up the colourscape nicely with vibrant, heavily saturated sequences, such as in scenes featuring shell-shocked students following the destruction of the X-Mansion. But it also sometimes infuses the image with an unnatural yellowish tone, and/or sometimes makes (non-blue mutant!) skin look a bit too flushed for comfort.

The BenQ's handling of motion is a bit off the pace, too. The fast motion and rapid tracking shots during *...Apocalypse's* final battle appear with more judder than I'd like, and while the X12000 is generally pretty well served with calibration aids and processing features (there's colour management and gamma adjustment, plus ISF certification), it doesn't sadly include anything that obviously reduces judder.

A swift switch to *Billy Lynn's Long Half-Time Walk* – a 4K title presented at 60fps – throws up some really quite distracting colour contouring and fizzing noise over areas of peak detail on moving objects; stuff like the noses and cheekbones of the soldiers as they file past the camera

### SPECIFICATIONS

**3D:** No **4K:** Yes. 3,840 x 2,160 resolution **HDR:** No **CONNECTIONS:** D-Sub PC port; 2 x HDMI inputs; Ethernet; RS232, 2 x 12V triggers; IR input **BRIGHTNESS (CLAIMED):** 2,200 Lumens **CONTRAST (CLAIMED):** 50,000:1 **ZOOM:** 1.5x **DIMENSIONS:** 470.7(w) x 224.9(h) x 564.7(d)mm **WEIGHT:** 18.5kg

**FEATURES:** Single-chip DLP projector; 20,000-hour claimed lamp life; 23dB-31dB fan noise depending on lamp mode; Philips ColorSpark LED lamp; DCI-P3 colour mode; 14-element lens; 1.36-2.03:1 throw ratio; +/- 65 per cent vertical lens shift; +/- 27 per cent horizontal lens shift; HDCP 2.2 on HDMI 1 (v2.0); True Zoom; CinematicColor Technology; ISF calibration; Bright, Vivid, Silence, Cinema, DCI-P3 picture presets; gamma, colour temperature and colour management tools

### PARTNER WITH



#### PANAMORPH PHOENIX PRO:

Using a 'Scope ratio projector screen? Kill the black bars and bathe in an increase in brightness and image clarity when using Panamorph's anamorphic lens in conjunction with the X12000

ahead of venturing onto the pitch at their first American football appearance. None of the available colour processing options fixed this issue.

Talking of the X12000's processing, I was disappointed with its HD upscaling. It suppresses source noise quite effectively, but HD pictures look softer than they do on the other 4K projectors I've spent time with. Backgrounds in large-scale shots can actually look a touch out of focus.

Last but certainly not least on the negative list, the BenQ suffers with some quite pronounced rainbow effect, where stripes of pure red, green and blue flit over the brightest parts of the picture. This is a common issue with single-chip DLP projectors but, perhaps because of the intensity of the Philips lamp, I found it more distracting here than on many far less expensive models. If you're at all sensitive to seeing rainbowning, the X12000 probably isn't the projector for you.

### A real curio

This projector's unusually extreme mix of strengths and weaknesses means that your experience of watching it veers from wildly exciting to frustratingly distracting. Specifications-wise it's a real curio – other companies have been adding HDR support even to non-native 4K models, here BenQ is staying firmly within the SDR arena. And there's not even 3D playback (still a draw for home cinema projector owners) to sweeten the deal.

The X12000 proves emphatically that native DLP projection for the home can work, but also feels too much like a 'first try' – or maybe too ambitious for its own good. In fact, I've got a sneaking suspicion that BenQ's cheaper and more straightforward W11000 4K model might offer a better balance between price and performance. Look out for a review of that one in a future issue ■

**3. The X12000 is BenQ's first foray into 4K DLP projection**

### HCC VERDICT



#### BenQ X12000

→ £8,150 → [www.benq.co.uk](http://www.benq.co.uk)

**WE SAY:** The X12000's bright, richly coloured and incredibly detailed native 4K pictures are undermined by a number of distracting flaws and feature omissions. Expensive, too.





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BLUESOUND



## AV INFO

**PRODUCT:**  
Three-channel,  
multiroom-ready  
soundbar

**POSITION:**  
Samsung's premium  
non-Atmos model

**PEERS:**  
Yamaha YSP-2700;  
Sonos Playbar;  
Bose Soundtouch 300

Samsung has engineered an effective performance from its latest soundbar, says **Richard Stevenson**

# Single box with multiple talents

Samsung's HW-MS650 soundbar arrives as the first of the brand's 2017 lineup. It hopes to build upon the good work of last year's HW-K950, and again boasts development at Samsung's US-based Audio Design Lab, which opened in 2016 with staff nabbed from high-end sonic specialists and Hollywood.

And the HW-MS650 is a bit special, even without Dolby Atmos support. Headlining a burgeoning list of tech to make your head fuzzy is Samsung's patent Distortion Cancelling technology. This adapts the audio signal in real time, based on comparing the known limitations and characteristics of the drivers with each component of the original audio signal. Okay, that is actually a one-sentence summary of a 20-page presentation, but you get the idea.

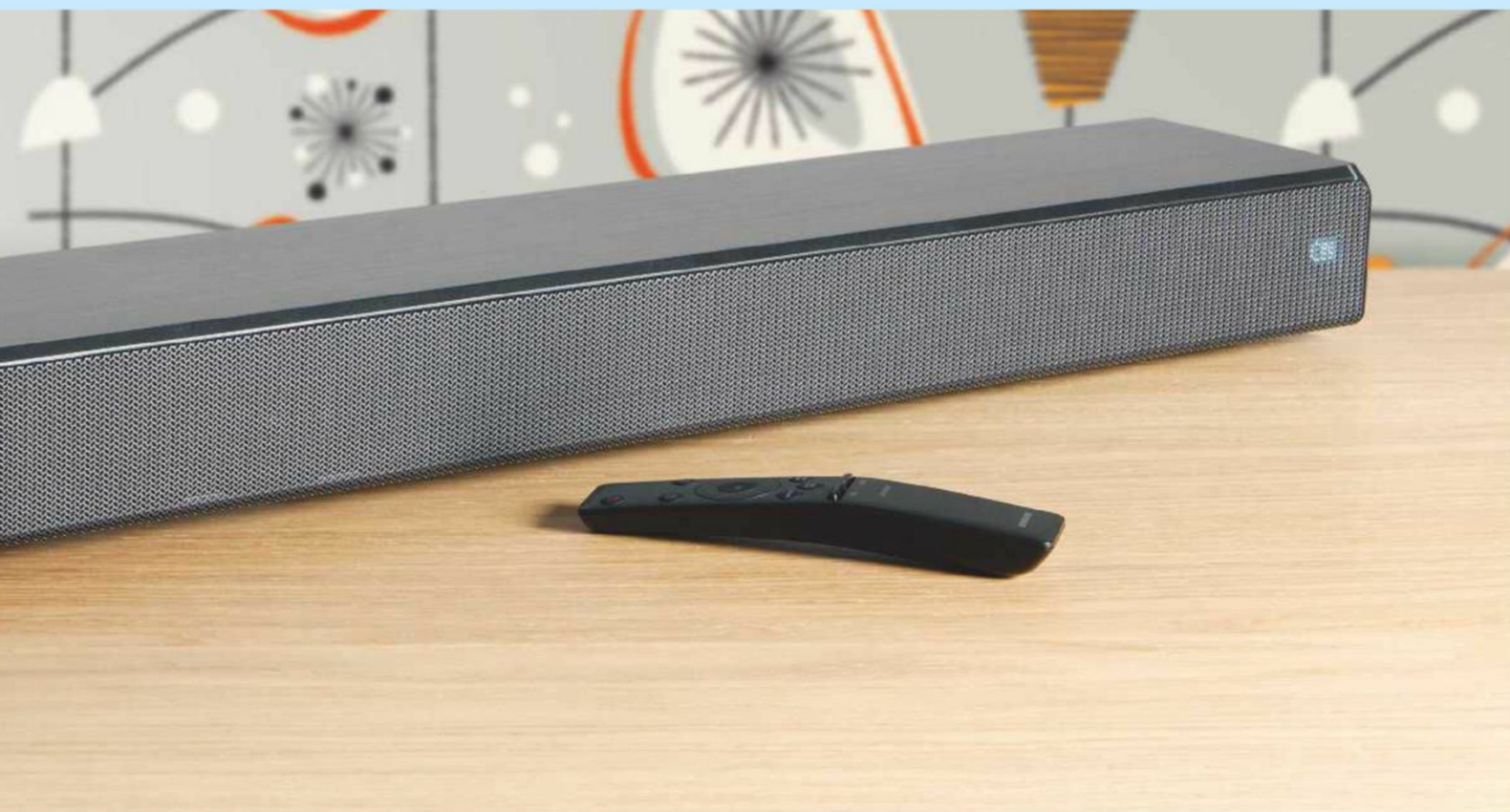
The upshot is that with a high-volume explosion that would otherwise make drivers flap like flags in a breeze, the HW-MS650 aims to attenuate troublesome frequencies on

the fly, in real time, before distortion occurs. The same frequencies in subsequent dialogue would be untouched because it's not of a high enough volume to send the drivers into distortion.

Apply that to the full frequency spectrum and you can see there is a whole lot of clever processing maths going on. I am aware of a similar technology – Devialet's SAM – in its Phantom range of speakers... and they are upwards of £3,000 a pair. This is a £600 soundbar.

The result of all this digital trickery, says Samsung, is much lower measured and audible distortion, particularly





**1. The 'bar uses nine drivers in total, each given 20W of grunt**

down in lower registers where the HW-MS650's array of 2in x 4.3in drivers would otherwise struggle. This delivers cleaner and deeper bass and, the logic goes, eliminates the need for a subwoofer.

### An amp for all

Behind the soundbar's fixed-on grille is a truncated blue display that scrolls text three characters at a time (a bit irritating), plus three speaker channels (left, centre, right). Each channel gets one of Samsung's bespoke tweeters and a pair of midbass drivers. Analogue crossovers have been dispensed with. The HW-MS650 has one 20W amplifier for each driver, and fully active crossovers.

The tweeter is the same one developed for the flagship HW-K950 soundbar, a wide-frequency-range unit that operates down to 700Hz. This aims to keep the bulk of dialogue-range frequencies coming coherently from a single driver, and offers significantly wider dispersion than a traditional dome. The result should be a wider soundstage that spreads the sweet-spot around.

The soundbar's connection panel is housed in a deep rear-side recess so plugs don't stick out or cause issues with close-to-wall mounting. A right-angle figure-8 mains lead is supplied, and there's also a figure-8 mains power output socket. This allows you to hook up your TV power without another cable trailing down the wall, which is a neat touch.

The one input/one output HDMI stage might be a bit limiting for those with an older TV but as most soundbars are hooked up to TV via an optical cable, the majority of buyers won't complain. Both sockets support 4K/HDR passthrough and HDCP 2.2, offer ARC, and are mounted on the side of the recess to accommodate cables with chunky plugs.

Alongside the optical digital port is a 3.5mm analogue input and a socket for Samsung's wireless subwoofer dongle. So, yes, there is a subwoofer available. Samsung says you don't 'need' one with the MS650 but you might

'want' one for the full home cinema effect. The sub in question is the SWA-W700, priced at £600.

Other talents of the HW-MS650 are Wi-Fi connectivity, music streaming (and multiroom) and two-way Bluetooth. The Bluetooth output allows you to hook up a pair of wireless headphones and listen to any source, including networked audio, connected to the soundbar.

For the full five-channel surround sound movie experience, leveraging the MS650's onboard Dolby Digital decoder, you can add the optional SWA-9000S wireless speaker kit (£250).

Controlling the MS650 is by its rather funky remote, any Samsung TV remote, Samsung's Multiroom app or, in case of emergencies, four buttons on the side of the 'bar. The app has had a major overhaul since I used with it with the HW-K950 last year and is now slicker. Alongside multiroom streaming, library and playlist management and music services including Spotify Connect, it adds seven-band EQ to the basic suite of soundbar controls.

If you are looking for a little extra pizzazz alongside the standard sound settings, you get several virtual surround modes and Samsung's Smart Mode. This analyses the audio stream, adapting dialogue balance and levels, ambient effects and even the music relative to the content.

### Clean and crisp

The HW-MS650 doesn't sound like a typical soundbar. There is none of the cabinet resonances you often get with slim models and none of the colouration and filtering usually associated with multiple small drivers. Moreover, there's no hint of the bandwidth limiting you can get with small drivers in a low-volume enclosure. It's weird, in a really good way.

Playing music, in particular, the MS650 actually sounds much more like a good pair of stereo speakers – pushed slightly too close together. With the Smart Mode engaged there is a crispness and resolution that will startle you if



2

you are coming from an inexpensive soundbar or just plain old TV sound. The bass delivery is, frankly, amazing. It has a depth and lushness that could show a thing or two to decent standmount loudspeakers.

That has a positive effect on dialogue, hitting that rare combination of being both rich and articulate. Watching E4 on broadcast TV offers a myriad of presenters and eclectic content with accents from all over the world. This didn't faze the HW-MS650 at all.

While the clarity and lack of colouration is mighty impressive, the MS650's bass is definitely its killer feature. At normal listening levels it allows the 'bar to deliver near full-range sound without having to find room for a sub in your living room. Such was the bass output I set up a test mic and RTA software to measure the HW-MS650's in-room response. Despite being up against the wall beneath the TV, its -6dB point was 38Hz and there was still plenty of output (-10dB) at 32Hz.

But before we get too excited here, and subwoofer manufacturers start flogging themselves with redundant 15in drivers, that frequency response is at limited maximum volume. Turn up the power and the clever Distortion Cancelling tech limits driver excursion and backs down the signal at these low frequencies before the drivers get flappy and uncontrolled.

*Game of Thrones* sounded rock-solid and fulsome with plenty of detail in the ambient effects. With Tyrion Lannister standing on the battlements awaiting the sea attack from Stannis Baratheon's fleet, you can hear with vivid realism the crackle of torches, the creak of bows and nervous men swaying in the sea breeze. As the scene cuts to the ships, the HW-MS650 iterates the creaking timbers with solid, deep bass.

With the volume set to 80/100 at this point, you'd expect the ensuing wild-fire explosion to be a cacophony of ruffled drivers and distortion. Not so. While the explosion isn't going to blow you off the sofa, it remains composed and beefy enough to underline the effect, if not make a true cinematic-level subsonic experience. You can't over-drive or damage this soundbar through giving it too much welly. On the downside, if you like it loud and want those deep frequencies at high levels, that add-on wireless subwoofer is going to be required after all.

Switching off the Smart Mode seems to compress the soundstage rather than significantly effecting frequency response. The scene is just as detailed but somewhat smaller with less projection into the room. Trying material from music to movies, the Smart Mode had a dramatic and positive effect on the sound – I would not turn it off.

## SPECIFICATIONS

**DRIVE UNITS:** 6 x oval midbass drivers (2in x 4.3in); 3 x Wide Range tweeters  
**AMPLIFICATION (CLAIMED):** 9 x 20W **CONNECTIONS:** HDMI input; HDMI output (ARC); optical digital audio input; 3.5mm aux input; TV mains power output **DOLBY TRUEHD/DTS-HD MA:** No. Downmixes both **SEPARATE SUB:** No. Optional wireless sub **REMOTE CONTROL:** Yes **DIMENSIONS:** 1,060(w) x 78(h) x 130(d)mm **WEIGHT:** 6.2kg

**FEATURES:** Two-way Bluetooth; Wi-Fi; Distortion Cancelling; Excursion Limiter; Smart Sound Mode; DSP modes; Samsung Multiroom app control with streaming music and seven-band EQ; compatible with SWA-9000S; AAC, MP3, FLAC, WAV, OGG, ALAC; 4K/HDR passthrough; HDCP 2.2

## PARTNER WITH



**SAMSUNG SWA-9000S:** The MS650 can become the front line of a surround setup when joined by this £250 pair of rear speakers. Wireless transmission removes the need for trailing cable – but they'll still need connecting to a mains plug.

A romp through some of the DSP and surround modes was the usual fun but short-lived affair. Yes, they all change the soundfield but none of them delivered anything like the crisp, detailed and natural sound of Smart Mode.

The seven-band EQ system works well and I used it to bolster bass output a touch – still without the speaker going into meltdown when the volume went up.

## Musical maestro

Samsung's Multiroom App demonstrates one surprising strength of the HW-MS650; it is sublimely good with music. There was a slight 'cuppiness' to vocals, likely a result of it being sited against a wall, and while the top end is extremely well extended it can get frisky at very high volume when deep bass is attenuated by the Distortion Cancelling technology. If that sounds like audiophile rhetoric, it is only because the HW-MS650 sounds so much like a good pair of stereo speakers in the first place.

This rather less expensive model makes an interesting comparison with the premium, Atmos-enabled, multi-box HW-K950. They are very different beasts. With movies, the HW-MS650 doesn't have the scale of the HW-K950's Atmos system or its impressively immersive surround sound vista – with *Fast and Furious 7* (Blu-ray), the mountain-road rescue sequence just doesn't have the same room-filling feel. Yet the MS650 is more refined, more of a polished performer and certainly a whole lot simpler. Okay, six hundred quid is still a considerable price, but in terms of performance per pound, this is outstanding value for money.

This soundbar is articulate with day-to-day TV, turns in a genuine hi-fi performance with music and gives movies plenty of richness and clout. It's simple to set up and use and comes with an optional yet clever app. I'd suggest it's probably the best everyday soundbar you can buy ■

**2. An alternative model, the HW-MS6500, features a curved design to match Samsung curved displays**

## HCC VERDICT



### Samsung HW-MS650

→ £600 → [www.samsung.co.uk](http://www.samsung.co.uk)

**WE SAY:** A stunning performance from a single-enclosure soundbar that sounds superb with all types of content. Multiroom-ready and HDMI-equipped, it justifies its price.





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# Stand your TV on a plinth of power

Sonos' new Playbase is a welcome addition to its multiroom speaker range, says **Steve May**, even if you don't decide to partner it with the brand's dedicated subwoofer

## AV INFO

### PRODUCT:

Multiroom-enabled LCR soundbase speaker

### POSITION:

An alternative to the Playbar in Sonos' TV audio range

### PEERS:

Sonos Playbar; Canton DM100

**A FEW MONTHS** ago it looked like the humble soundbase was dead... flattened. In a world dominated by soundbars, sales had... flattened. But now Sonos has belatedly latched onto the form factor, and could bring it back to life.

The Playbase, the first new addition to the Sonos team since the last version of the Play:5 standalone multiroom speaker, is being positioning as an alternative to its soundbar, the Playbar. But I reckon it's much better than that. It might even be the best speaker Sonos has ever made – as well as its most expensive.

## Exquisite finish

Cosmetically, the Playbase is as pretty as a picture. Available in black or white, it's hewn from custom-

designed, glass-infused polycarbonate and feels disconcertingly smooth to the touch. There are no inelegant seams or rough edges. The finish is exquisite.

There are two ways to install it. At 58mm tall and 720mm wide, it'll slide between the feet of most large-screen TVs. Or, if your screen comes with a conventional pedestal stand, you can park it on top. Mega-sets are welcome – the Playbase, says Sonos, can accommodate TVs up to 35kg.

Viewed front on, you're presented with an acoustically transparent grille, which curls around the corners. This apparently comprises 43,000 holes, which widen imperceptibly at the edges (from 0.75 to 0.9mm) to improve airflow.

Of course, the Playbase functions just like any other wireless Sonos speaker. You can group it, stream to it in isolation or upgrade it with additional boxes. As with the Playbar, it can be employed in a 5.1 system, by adding a Sonos SUB and Play:1 speakers at the rear.

One much celebrated Sonos attribute is ease-of-use. These guys know how to make light work of system setup. Once released from its elaborate packing box, it's simply a matter of hooking up your TV, assigning External Speakers in the TV audio menu, and then downloading the Sonos app and doing what you're told. The whole process should only take 15 minutes or so.

A wide variety of music services can be streamed to the Playbase from the Sonos app, including Tidal, Spotify and Deezer. Alternatively, you can access tracks from a NAS library.





While most interaction comes via the app, there are on-body controls, positioned either side of the Sonos logo, for Volume, Play/Pause and Next/Previous swiping.

As with the Playbar, connectivity is infuriatingly basic. There's no HDMI ARC option, so the only TV input accepted is digital optical; there's also a 3.5mm line input which I hooked up to an Amazon Echo Dot, although any local music player will work. Wi-Fi is joined by an Ethernet jack, but Sonos still has no time for Bluetooth, so don't try

**'With movies, deep bass comes from the Playbase's built-in woofer. The low-end is rich and naturalistic'**

connecting any of your devices that way. And, arguably most irksome, there's no support for hi-res audio. These specification omissions will undoubtedly put some potential buyers right off.

When it comes to making a noise, the Playbase is a three-channel design. Behind that grille is a nine-transducer array grouped in a left/centre/right configuration (six mid-rangers, three tweeters), backed up by a 5.25in woofer allied to an S-shaped bass reflex port. The far-most tweeters angle outwards at 45 degrees. All are kept in play, even with stereo material.

The Playbase can decode a Dolby Digital bitstream via its onboard Dolby Audio decoder and sounds its best this way. Such a stream could come from a Netflix app within the TV, or connected source. DD 5.1 is therefore on the menu, but – as with the Playbar before it – there is no DTS decoder, which is a spanner in the works when it comes to the majority of Blu-rays.

### Foot-tapping temperament

The Sonos Playbase soundstage is wide and engaging. Detail and spatial imaging is outstanding, and it has musicality in spades. It's impossible to resist its foot-tapping temperament.

With movies, deep bass comes from that in-built woofer. Sure, you can work the Playbase with the Sonos SUB, but as that also costs £700 it's an expensive add-on in pursuit of mightier lows, and not a prerequisite. The downwards-firing driver here and snaking port allow the Playbase to deliver a rich, naturalistic low-end. It drops to around 50Hz, which is just what you need to add clout to bombastic action movies. When those V8s clear their throats in *Mad*

### SPECIFICATIONS

**DRIVE UNITS:** 6 x mid-range drivers; 3 x tweeters; 1 x 5.25in woofer **AMPLIFICATION (CLAIMED):** None given **CONNECTIONS:** 3.5mm stereo minijack; optical digital audio input; Ethernet **DOLBY TRUEHD/DTS-HD MA:** Downmixed/No **SEPARATE SUBWOOFER:** No. Optional **REMOTE CONTROL:** No. Use Sonos app instead **DIMENSIONS:** 58(h) x 720(w) x 380(d)mm **WEIGHT:** 8.6kg

**FEATURES:** Sonos multiroom compatible; TruePlay calibration for iOS; integrated Wi-Fi; Spotify, Deezer, Tunes, Tidal, etc, service support; Speech Enhancement; Night Sound setting; bass/treble/loudness adjustment; on-body controls for volume up/down, previous/next track, play/pause; Dolby Digital decoder

### PARTNER WITH



**SONOS PLAY:1:** The Playbase can be the LCR in a 5.1 system using Sonos' more affordable (£200) speaker for surround duties. Of course, the Play:1 also functions as a standalone Sonos unit, allowing music streaming and multiroom fun.

*Max: Fury Road*, you'll feel more than a tingle of home theatre satisfaction.

Accompanying this is good channel separation from the LCR array, plus precisely-locked dialogue. And the Playbase isn't restricted to a listening sweet spot. It works fine even if you are slightly off centre. The angled drivers cast a wide soundstage, and it sounds extra expansive in rooms with a surfeit of hard surfaces.

Although essentially plug and play, there are some refinements available. The Sonos app offers Dialogue Enhancement and Night Mode, for additional clarity or a toned-down bass response for late-night listening.

And while there's no microphone in the box, the Playbase can be room-tuned using the Sonos TruePlay calibration app, which is available (only) for iOS devices.

There's a cute video tutorial which shows how the app should be used. I dutifully followed the instructions, which climaxed with me wafting an iPad around the room as if trying to disperse a bad smell. While I felt I wafted exactly as instructed, I wasn't too enamoured with the end result. My calibrated Playbase shed a lot of mid-range weight, becoming way too strident for my liking. Happily, you can do away with this EQ and revert to native performance – which is where the Sonos excels. It may be low-profile, but the Playbase sure makes a towering impression.

### To Sonos, or not to Sonos?

As a premium TV sound system the Playbase is rock-solid, but there are caveats. Basic connectivity and lack of Bluetooth seem mean-spirited at best, and don't show much progressive thinking since the Playbar arrived in 2013. Using it in a Sonos 5.1 system is expensive, too.

Yet build quality is beautiful, multiroom functionality flawless and it sounds entirely satisfying. If you're a stalwart Sonos fan, or an eager newbie, it's worth auditioning ■

**1. The Playbase's cabinet features 43,000 holes, apparently**

**2. Want more bass? You can pair with the £700 Sonos SUB**

**3. Each of the Playbase's 10 drivers gets its own digital amp unit**

3

### HCC VERDICT



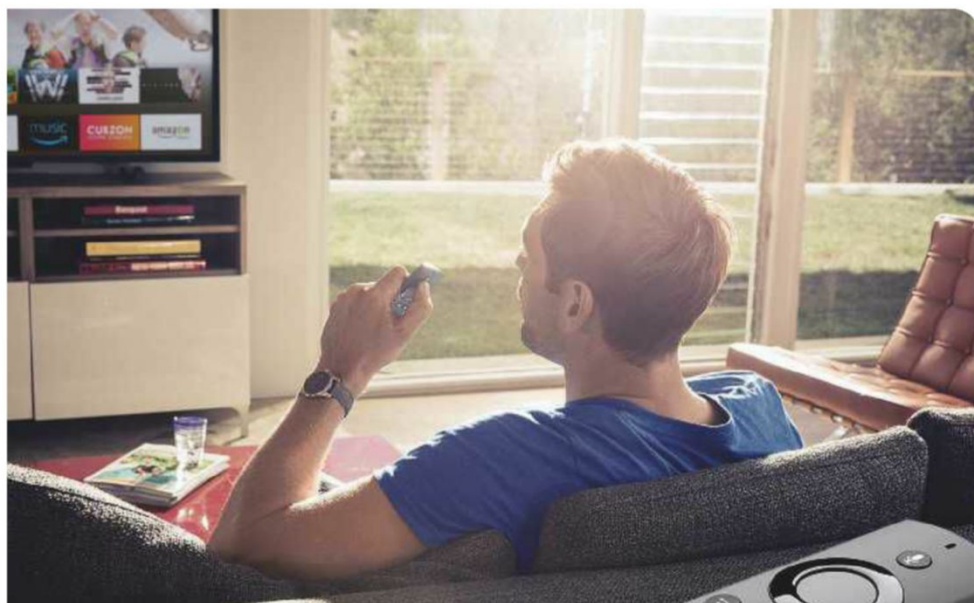
#### Sonos Playbase

→ £700 → [www.sonos.co.uk](http://www.sonos.co.uk)

**WE SAY:** Sonos may be short of some high-spec features but it remains a multiroom champion – this soundbase speaker is a welcome addition. Looks good, sounds good.

# Alexa's on fire

Amazon's streaming dongle gets an upgrade to add voice search. But, says **Steve May**, an improvement in processing power makes a difference, too



## AMAZON'S FIRE TV Stick has found its voice.

This new iteration brings Amazon's cheapie HDMI-connecting streamer in line with its larger Fire TV brother, which has already been firmware updated to support Alexa (Amazon's 'personal assistant') chitchat. With it you can voice search for TV and movie titles, command apps to open and even access Alexa 'skills'.

This dongle sells for an acceptable £40. This is £5 more than the previous generation, but does boast an upgraded quad-core ARM 1.3GHz processor, rated 30 per cent faster.

## What to watch?

So what can you do with the Fire TV Stick? Firstly, service support is wide. In addition to Amazon's video offerings, there's Netflix, BBC

iPlayer, ITV Hub, All4, My5, Curzon Home Cinema, DisneyLife and BBC News, amongst many others. It's a smart way of making a dumb TV smart.

The Fire TV ecosystem also includes a number of media-playing apps, including VCL (free) and Air receiver. The



latter is a paid-for AirPlay receiver and Samba client. File compatibility is limited, though.

The stick has 1GB memory, and 8GB storage. It features dual-band MIMO Wi-Fi, Bluetooth and Amazon's Advanced Streaming and Prediction (ASAP) tech for reduced buffering. There's HEVC codec support, although this isn't a 4K device. Dolby Digital Plus is standard, so 5.1 multichannel will play when available. There's also Miracast display mirroring.

When it comes to usability, there's much here which will be familiar to existing Fire TV users. The setup procedure is quick and easy, with a short animated tutorial built into the activation process.

That faster processor is immediately noticeable. Navigation is sprightly and apps load quickly. But the key interest is Alexa.

The platform here does nearly everything an Echo or Dot smart speaker can. You can check your calendar, activate smart devices, listen to audio books from Audible or Kindle Unlimited and get news and weather updates – most with the added bonus of a neat

## SPECIFICATIONS

**CONNECTIONS:** HDMI input; microUSB (power only) **AUDIO FORMAT SUPPORT:** Dolby Digital Plus; FLAC; MIDI; MP3; PCM; Vorbis **VIDEO FORMAT SUPPORT:** H.264/H.265 1080p30 **DIMENSIONS:** 85.9(d) x 30(w) x 12.6(h)mm **WEIGHT:** 32g

**FEATURES:** Amazon Alexa voice control, dual-band MIMO Wi-Fi; Bluetooth (4.1); BBC iPlayer, All4, My5, ITV Hub, Curzon Cinema and more video-on-demand; Amazon music; Amazon Photos; works with Fire TV Remote App; 8GB internal storage; 1GB memory; MediaTek quad-core ARM 1.3GHz processor

## Voice search means you can open apps and browse movie genres faster than before

graphic. Weather forecasts show the week ahead, while music and news play with station logos and artwork.

Ask the stick 'What movies are playing?' and it'll present thumbnails of films screening theatrically in your local area, although it doesn't go as far as telling you theatres or screening times.

All the Easter eggs are here, too, from *Star Trek* (Tea, Earl Grey, Hot...) to *Hitchhikers* ('What's the meaning of life, the universe and everything?').

Voice search is clearly a great way to browse. 'Find science fiction' pulls up a long list of content, from *Firefly* and *Under the Dome*, to *Hardcore Henry* and *Godzilla*. Search works across multiple apps, and not just Amazon's own real estate.

It also makes sense to use Alexa to open apps – command 'Open iPlayer' and it's ready before you'd have a chance to navigate yourself there with thumb clicks. However, once into the app you can't continue with voice search. Ask, say, for 'Peter Kay' and you'll be pulled out of iPlayer and given some generic search results, rather than Season 2 of *Car Share*.

But this is a pedantic niggle. Voice search on a low-cost streaming stick like this is difficult to resist. The user experience is terrific, and if you have a fast fibre connection, sound and video quality is high.

Selling for less than an Echo Dot, with all key streaming services supported, this new Fire TV stick is an easy recommendation. Alexa support goes beyond basic voice search, and performance is a step up ■

## HCC VERDICT



### Amazon Fire TV Stick with Alexa

→ £40 → [www.amazon.co.uk](http://www.amazon.co.uk)

**WE SAY:** Alexa integration makes Fire TV hotter than ever. Fast, powerful and with all key OTT services, this media player is an absolute bargain.

## AV INFO

**PRODUCT:** Media streaming dongle with Alexa AI integration

**POSITION:** Budget Fire TV dongle, below Amazon's 4K box

**PEERS:** Google Chromecast; Nvidia Shield TV



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# Portable TV partner

Nintendo's Switch offers traditional handheld gaming functionality, but ups its specs when connected to your flatscreen via HDMI. **Rik Henderson** isn't sure the price is right, though

## AV INFO

### PRODUCT:

Home and portable games console

### POSITION:

The flagship machine for Nintendo, replacing the Wii U

### PEERS:

PlayStation 4; Xbox One; Nvidia Shield Tablet

**WHEN NEW GAMES** consoles are released, most lay claim to being as much a home entertainment system as videogaming specialist. Not so the Nintendo Switch. It is unashamedly, single-mindedly, games-playing hardware. At least at launch.

With the abject sales failure of its predecessor, the Wii U, still a painful reminder of getting things wrong from the off, Nintendo has concentrated on the Switch's games prowess first and foremost – much to the console's benefit. The company promises video streaming apps and access to other entertainment services somewhere down the line, with talks reportedly ongoing with the likes of Netflix and Amazon, but there's nothing on offer as yet.

Instead, we get a games console quite unlike its peers. Yes, the PlayStation 4 and Xbox One are as capable with movie playback, online and via Blu-ray (4K in respect of

the Xbox One S), as games playing, but the Switch has bells and whistles of its own. It is both a home console you plug into a TV and a portable tablet-like device.

## Take a tablet

The Switch comprises a chunky slate with a 6.2in 1,280 x 720 LCD touchscreen, with a maximum 60fps refresh rate. This can be used on the move to play all the games Nintendo and partners offer now and in the future. The other element is a plastic dock that serves as a recharge station and, with HDMI output, a means to 'switch' the games to play on a TV or projector.

All the significant hardware is in the tablet-like device, with just a dumb USB Type-C to HDMI function in the docking unit. However, as the main console recognises when it's docked, the video output is ramped up to a possible 1080p60. Audio is improved too, from stereo



on the tablet itself to a possible 5.1-channel LPCM output through HDMI.

Those are the headline stats and, in comparison with other current-generation consoles, they can look a little dated. The PS4 Pro is capable of native 4K, for example, and there's the new 4K-enabled Xbox machine, Project Scorpio, on the horizon, too. However, it's not always the size of your pixel count, it's what you do with it that matters. And Nintendo is a master in this sense.

Diversity is key and the Switch is the most adaptable machine in living memory. It has many facets and ways to play, even beyond the aforementioned portable and static modes. You can use two supplied mini controllers – called Joy-Cons – clipped onto a grip to form a full gamepad, or you can slot them either side of the screen to play the device in its all-in-one portable device guise.

There's also a kickstand around the rear that turns the screen into a portable TV, with the Joy-Cons, unclipped again, serving as tiny controllers for two different players. And, finally, the controllers have motion sensors inside, so you can play party and social games by waving them around in a fashion not seen on such an intuitive scale since the Nintendo Wii.

This effectively makes the Switch four consoles in one. And the clever part is that no matter which mode you opt for, it will play the same games – scaling or adapting them to suit your chosen method – either slotted into the cartridge slot or downloaded from the online eShop.

Take *The Legend of Zelda: Breath of the Wild*, for instance. In tablet mode, *Zelda* plays in 720p with stereo sound, but in TV mode it bumps up to 900p and 5.1. It doesn't quite reach the full potential of the hardware – you only need to look at the scope and lush landscapes of the game to realise why – but the console cleverly adapts performance depending on the circumstances.

## Plug and play, and plug again

Battery life could be a good reason why it sacrifices resolution when played remotely. To be honest, it's a bit of an Achilles' Heel, with the manufacturer claiming it will last between two-and-a-half to six hours on one charge depending on usage scenarios. I found that it never really lasted more than four – hardly ideal for a long-haul flight.

I'm also less than impressed with the storage included on the Switch. You get a measly 32GB of built-in capacity, and a good 6GB or so of that is taken up by the system software. Considering you can buy digital copies of games, downloaded from Nintendo itself, you'll soon run out of space. Save games also need to go somewhere. You'll almost certainly find yourself forking out for a well-stacked microSD card before long to give yourself greater wriggle room.

This will add to the cost of what is already a pricey product. It sells for £280 and doesn't even come with a game. The current must-have title – *Zelda*, again – costs a mammoth £60 extra. So, straightaway, it's not the sort

## SPECIFICATIONS

**CONNECTIONS:** On tablet: USB Type-C port; microSD card slot; Nintendo Switch game card slot; headphone jack. On dock: HDMI output; three USB 2.0 ports (to be made 3.0-compatible in future) **HARDWARE:** 6.2in LCD touchscreen (1,280 x 720 resolution); 1080p in TV mode; Nvidia Tegra chipset for CPU and GPU; 32GB of storage; 802.11ac Wi-Fi; Bluetooth 4.1; Ethernet through USB adapter (not included); stereo speakers on tablet; LPCM 5.1-channel surround in TV mode; accelerometer; gyroscope; brightness sensor **DIMENSIONS:** Tablet: 102(h) x 239(w) x 13.9(d)mm (with Joy-Cons attached). Dock: 104(h) x 173(w) x 54(d)mm **WEIGHT:** Tablet: 297g. Dock: 327g

**FEATURES:** Two Joy-Con controllers, Joy-Con straps for motion gaming, Joy-Con Grip

## PARTNER WITH



**THE LEGEND OF ZELDA: BREATH OF THE WILD:** The Switch's launch title is a cracker: a massive, open-world fantasy RPG with varied gameplay, picturesque graphics and a rousing score. Not cheap at £60, but you can spend hours and hours enjoying it.



of gizmo you'd buy to keep junior family members quiet while you spring clean your AV setup. In use, though, I'd say it just about justifies its hefty ticket.

Why? Well, since I picked up the Switch for the first time I've barely put it down again. Partly thanks to *Zelda*, which is a life-sucking hole of the highest order, partly for some other titles – *Mario Kart 8 Deluxe*

is particularly good, hitting 720p or 1080p respectively and in 60fps in all modes.

The appeal of playing a game on a TV, picking up the tablet unit and carrying on when elsewhere is immense. And the screen and graphical presentation is such that it'll satisfy stringent picture evangelists, as long as they can look past the lack of HDR and 4K resolutions.

## Multi-functional

The Switch is definitely unique, and will appeal to gamers sick of being tied to a console in their entertainment den. Its multi-functionality makes it more adaptable to everyday life than a PS4 or Xbox. Battery drain and pricing are concerns, and I wish Netflix and other apps were already available – that way you could pack the Switch for a journey out of the house and not need to worry about a separate device. This'll be the icing on an already tasty cake when it does come eventually. Some will look at the lack of 4K talents and choose not to bite, though ■

1. The Switch's Joy-Con controllers detach for two-player gaming

2. Dock the console and it outputs up to 1080p60 via HDMI to your TV/projector

## HCC VERDICT



### Nintendo Switch

→ £280 → [www.nintendo.co.uk](http://www.nintendo.co.uk)

**WE SAY:** An excellent, different console outing from Nintendo that underlines what the company does best: make great games. Not the last word in specs, battery life or apps, though.

# Bigger is better?

**Richard Stevenson** auditions REL's S/5 SHO 12in subwoofer, wondering if it can out-perform the company's smaller, more affordable S/3 model



The design is identical to the S/3 SHO, only bigger

**HAVING ONLY RECENTLY** waved goodbye to the mighty REL No.25, the company's middleweight prize-fighter in Super High Output (SHO) trim looks veritably svelte by comparison. The S/5 SHO is still a serious-sized sub though, adding an inch or two to every dimension of its smaller S/3 SHO sibling that we reviewed in *HCC* #264.

While the baby brother packed in a 10in main driver, the S/5 SHO ups that to 12in and marries it to a more potent 550W amp. The result is an extension a couple of Hz lower (20Hz at -6dB) and more grunt for bigger effects. Both models feature the same down-firing 12in passive radiator, cubic good looks and luxurious gloss black or white finish. The 12in cone uses a lightweight alloy and

one-piece design to reduce moving mass while increasing driver rigidity. The result is a light, stiff and fast driver capable of punching the air with well over 100 square inches of surface area. The passive unit on the underbelly is flat, with an all-carbon construction. It doesn't move a great deal at lower volumes, giving the S/5 much of the sheer speed of a sealed-box design. Yet as you wind up the wick it gets more involved, allowing the sub to plumb the depths of bass like a 15in single-driver model.

## Dialling it in

While I would have liked a balanced XLR input and maybe a remote control on a £2,000 sub, REL deems them unnecessary; get the S/5 dialled into your room correctly and you should never need to fiddle again. I've set up a lot of REL subs in the last 20 years. Get basic phase correct, play a tune with a consistent bass tone and adjust level and sub position until it all merges into one holistic soundfield. Yet the S/5 SHO proved a challenge in my room compared to its baby brother, sounding powerful but rather portly irrespective of where I placed it.

## SPECIFICATIONS

**DRIVE UNITS:** 1 x 12in continuous profile aluminium cone woofer; 1 x 12in flat, carbon-weave, passive radiator  
**ENCLOSURE:** Sealed with passive radiator  
**FREQUENCY RESPONSE (CLAIMED):** Down to 20Hz (-6dB) **ONBOARD POWER (CLAIMED):** 550W Class D amplifier **REMOTE CONTROL:** No **DIMENSIONS:** 444(w) x 455(h) x 507(d)mm **WEIGHT:** 31.6kg

**CONNECTIONS:** Phono LFE input; stereo phono line-level input; Neutrik Speakon high-level input; SMA antenna connector for use with REL LongBow wireless unit

REL HQ suggested some serious running in was required. So I locked it in playing a Bob Marley megamix and told it to *Lively Up Yourself*. A week later and after some more position tweaking, all was *Jamming*...

The S/5 SHO is a bigger sub than the S/3 in every respect, sounding heftier, bolder and more fulsome. I'm not sure I could detect any real difference in its lowest frequency response, but the S/5 certainly made its LF presence felt more in your chest.

Gary Oldman's opening scene in the *Leon* SE Blu-ray (part of the revamped Luc Besson collection) is a dynamic tapestry of silences and spectacular impacts that demands the very best sub performance. From Oldman's 'I like these calm little moments before the storm' line to the opening shotgun blasts, the S/5 delivers plenty of its SHO promise.

The scale of the larger explosions is epic, with the dual drivers comprehensively engaging the air and driving the entire room. The size and impact would not disappoint an even larger design. You'll be impressed by the potency of this relatively compact box.

The S/3 SHO review was a while back, but I seem to recall it sounding leaner but slightly tauter with more leading-edge attack in my listening room. This model shows it a thing or two in terms of muscle, weight and visceral slam though, and for movie watching that ticks all the boxes. The final chase scene in *Last of the Mohicans*, with Daniel Day-Lewis in hot pursuit up a mountain backed by Clannad's haunting tune, brings a heart-beat-like bass rhythm that the REL all but maps onto your own pulse. It's a real hoot.

In my cinema I'd prefer the S/3 SHO, as it was a little gentler and more even-handed with music, but that's not to detract from this larger model's prowess ■

## HCC VERDICT



### REL S/5 SHO

→ £2,000 → [www.rel.net](http://www.rel.net)

**WE SAY:** REL's bigger S/5 SHO delivers huge bass and real slam, capable of driving much larger rooms than its dimensions might suggest.



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# TV with bells on

**Martin Pipe** discovers that there's far more to this little box than its single Freesat tuner, especially if you have a spare external hard drive to join the party



**LIVE IN AN** area where terrestrial TV coverage is lousy and there's no cable alternative? Then Freesat, the satellite equivalent of Freeview, may be for you – if you already have access to a dish, or can have one fitted. To tap into Freesat, you'll need a TV with integrated tuner, or a box like the £100 Humax HB-1100S featured here.

A single-tuner design, it's a distinct-looking lozenge of surprisingly compact dimensions, thanks to its use of an external power supply. As a sop to those with old gear, it caters for basic composite video and analogue stereo audio (but not Scart), although most will be relying on HDMI, possibly feeding audio into an AV system via optical digital port.

There may only be one tuner, but it can be turned into a basic PVR by plugging an external HDD into its rear-mounted USB port. USB sticks aren't suitable and are rejected when you try to format them using the well-designed menus. And those 200-plus Freesat TV and radio channels (including 13 HD options) may be free-to-air, but recordings are stored

in encrypted form. Which means you can't watch them on a PC.

The HB-1100S is nevertheless a clever piece of network-enabled tech, with both Wi-Fi and Ethernet connectivity. You can roll back through EPG schedules to watch programmes broadcast over the past seven days, linking to the relevant catch-up service. The HB-1100S also covers on-demand content from Netflix, 4Music, YouTube, Curzon and Hopster, which turns out to be a preschool-age TV service, not a rap music portal. It's also a basic but effective DLNA media player able to pull video, music and photos off computers and NAS boxes on your network. Owners of Humax's Eye security cameras, meanwhile, can use the HB-1100S to view footage.

## Control is at hand

The icing on the cake, though, must surely be the Freesat smartphone/tablet app. After registration, this will remotely control your HB-1100S (as an alternative to Humax's handset) and view the EPG, as well as draw your attention to upcoming 'showcase' material. With an HDD online, it will also let you remotely schedule recording of programmes – and, whenever your device is Wi-Fi'd to your home network, trigger the playback of existing 'My TV' recordings on your

## SPECIFICATIONS

**CONNECTIONS:** HDMI output; USB; Ethernet; stereo analogue audio; optical digital audio; composite video

**ON-DEMAND APPS:** 26 channels via 7-day roll-back EPG; compatible with Freesat app; BBC Sport; BBC News; YouTube; Curzon; Netflix; Wuaki TV

**DIMENSIONS:** 206(w) x 42(h) x 168.5(d)mm

**WEIGHT:** 446g

**FEATURES:** Freesat Showcase; Wi-Fi; DLNA/USB media player; more than 200 TV and radio channels available; supports external HDD recording; 5.1 and stereo audio support

**The Showcase App is an alternative to this handset**

display (it's a shame you can't stream 'em to your smart device). There's plenty to engage with, then, if you can't find any live broadcasts worth watching.

Performance wise, it's difficult to fault the HB-1100S – although the user interface can be a little unresponsive on occasions. It held onto signals tenaciously, even during a fairly vigorous rainstorm. I also found that, contrary to Humax's claims, you can watch and record different channels simultaneously – the proviso being that both are on the same satellite transponder (e.g. BBC1 and BBC2). HDMI-fed HD images are as good as you'd expect. Visuals are detailed, clean and accompanied by sound with no obvious sync issues.

Going through my trusty Onkyo AV receiver, I noted that the Dolby Digital audio streams of some HD channels (e.g. NHK World) are conveyed via HDMI in PCM form – in other words, the HB-1100S does the decoding. However, the optical output contains the original Dolby Digital bitstreams for decoding by your AV gear.

On the whole, the HB-1100S is capable of a lot more than its modest dimensions suggest, and is worth seeking out if you need a basic digital TV source. Those digital add-ons are also tempting draws. Adding your own HDD is perhaps a tech-step too far for casual buyers, though. In this instance, a genuine twin-tuner Freesat PVR will be a better bet. Of course, Humax sells those as well... ■

## AV INFO

**PRODUCT:** Single-tuner Freesat HD receiver

**POSITION:** Middle proposition of Humax's current Freesat range

**PEERS:** Manhattan Plaza HD-T2; Humax HDR-1100S

## HCC VERDICT



### Humax HB-1100S

→ £100 → [uk.humaxdigital.com](http://uk.humaxdigital.com)

**WE SAY:** Neat design and numerous features go a long way to make up for the limitations of a single tuner and occasionally sluggish menus.

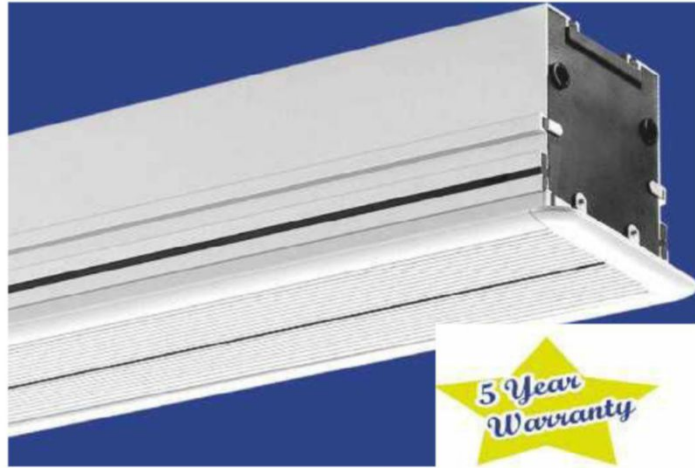




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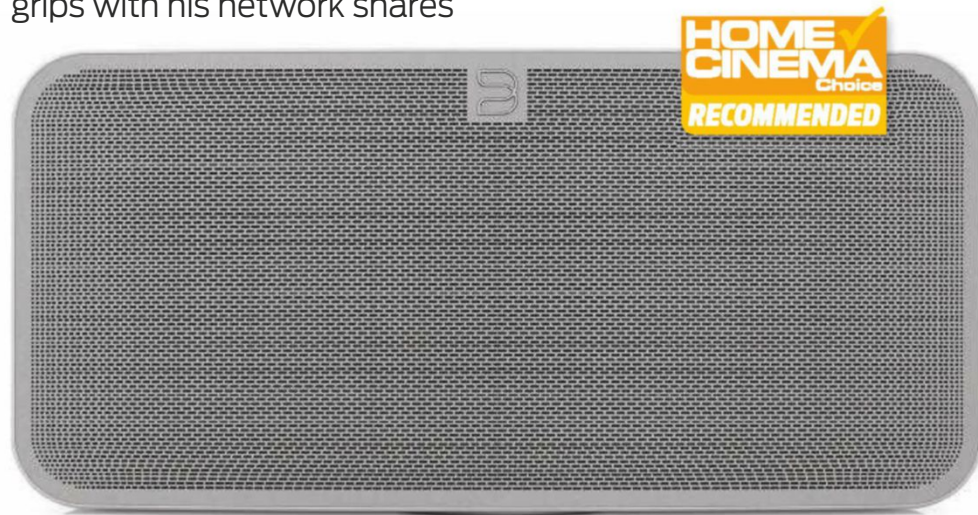


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# Hi-res hero

The original high-end wireless music system has had an upgrade. **Steve May** cranks up the volume while getting to grips with his network shares



**BLUESOUND WAS THE** original 24-bit hi-res audio streaming pioneer. Back when 24-bit was still in its teens, the active speaker outfit was elevating the art of music streaming. Yet today many of its wireless competitors have caught up, which means it's time for some hardware upgrades.

The Pulse 2 is a revamp of the brand's original flagship speaker system. It may look the same but it features a number of improvements, notably better Wi-Fi stability and an improved 1GHz ARM Cortex A9 multicore processor.

Not to put too fine a point on it, the Pulse 2 is built like a tank. Available with either a black or white matt finish, build quality is uncompromising. It weighs 6.12kg, and is a considerable portable with a footprint that demands a fair amount of space. Touch-sensitive volume and track controls can be found above the optimistic carry handle.

Behind the all-encompassing metallic grille lurks a large 5.25in woofer, flanked by mid-range drivers.

Bluesound's DirectDigital amplifier provides a punchy 80W.

Connectivity is wide-ranging, running to an optical/analogue minijack input, dedicated headphone output, USB port plus Ethernet. Wi-Fi is standard, too, while



**The Pulse 2's top plate features touch controls for volume and track skipping**

Bluetooth comes with high-bitrate aptX support. It's very flexible – you could even lace it up to your second room TV as a soundbar alternative via optical.

## Let it rip

For this audition, I partnered the Pulse 2 with the Vault 2, the latest iteration of Bluesound's hard drive CD ripper. This snazzy media player rips CDs to WAV, FLAC or 320kbps MP3, and can download high-res audio files from commercial sites to its 2TB drive.

It's a great repository for audio, and when it comes to system building, a natural partner; not least because (infuriatingly) there's no DLNA or UPnP support, which means you'll need to set up network shares if you already have a music library on a NAS. At best, this is an unfriendly quirk that guarantees a certain level of setup angst.

When not playing tracks from the Vault 2, I used the BluOS app to stream music services (choose from Tidal, Spotify, TuneIn, Deezer and Qobuz).

As with other connected multiroom platforms, the Pulse 2 can be used solo or

## SPECIFICATIONS

**DRIVERS:** 2 x 2.75in mid/high drivers; 1 x 5.25in bass driver **AMPLIFICATION (CLAIMED):** 80W DirectDigital amplifier **CONNECTIONS:** Ethernet; optical/analogue minijack input; USB; headphone output **AUDIO FORMAT SUPPORT:** 24-bit/192kHz FLAC, WAV, AIFF; MQA; MP3, AAC, WMA, OGG, ALAC **DIMENSIONS:** 420(w) x 198(h) x 192(d)mm **WEIGHT:** 6.12kg

**FEATURES:** Bluetooth aptX; Wi-Fi; 35-bit 844kHz DAC; ARM Cortex A9 1GHz processor; Android/iOS app support; 45Hz-20kHz claimed frequency response

grouped with other speakers on the network. Here, though, I used it *mano-a-mano*.

In full flight, the Pulse 2 sounds bold and exciting. It has the same kind of full-throttle energy you'd expect from a bolshy mini-system. That big woofer moves air and drops surprisingly deep – the Pulse 2's bass response is formidable.

But it's not just about slam. This flagship speaker also has a superb mid-range that handles complex vocals beautifully. The operatic shanty that is *Rosenkreuz (The Rose and the Cross)*, by Luca Turilli's Rhapsody (*Cinematic and Live*), is carried along with ease.

Any fears that the Pulse 2's size, just 420mm wide, might constrain the soundstage prove unfounded. Stereo imaging is wide. The result is that Bruce Springsteen's *Born to Run* is a proper wall of sound, an angry joy ride of a song that this compact better has no problem with.

You won't struggle to find stuff to play as Bluesound's file support is excellent. In addition to MQA, you can spin 24-bit/192kHz FLAC, WAV and AIFF files, plus MP3, AAC, WMA, OGG and ALAC. But there is no current support for DSD files, an audiophile staple. A firmware update is planned, but not yet scheduled.

## A new high-end

Overall, the Pulse 2 manages to combine brawn with musicality. It bristles with fine detail, yet plays loud and smooth, representing a new high-end for wireless multiroom audio. That lack of UPnP and DLNA is shortsighted, though. This premium speaker may rock like a hurricane, but it struggles to offer the friction-free usability of some rivals ■

## AV INFO

**PRODUCT:** Wireless hi-res audio multiroom speaker

**POSITION:** Bluesound's top-of-the-range standalone speaker

**PEERS:** Sonos Play:5; HEOS 7

## HCC VERDICT



### Bluesound Pulse 2

→ £650 → [www.bluesound.com](http://www.bluesound.com)

**WE SAY:** Not the easiest multiroom speaker to set up, but this high-end high-res audio system delivers when it comes to power and presence.



# Hisense H32M2600

You can still buy a 32in Full HD TV, discovers **John Archer** – and this one's pretty good

**THE H32M2600 IS** something we don't see enough of these days: a straightforward, aggressively priced Full HD 32in TV.

Inevitably, for just £220, this flatscreen isn't the most glamorous or heavily featured TV. Its design is chunky, plasticky, and devoid of flair, while its features only extend to a handful of streaming apps (predominantly Netflix, YouTube and the BBC iPlayer), plus support for the Anyview Casting system for sharing content stored on Android devices. Connections are pretty limited too – there are just two HDMI inputs and a single USB, for instance.

The Hisense makes more of an impression with its picture quality, though. With *Fantastic Beasts and Where To Find Them*, there's more contrast than is typical with budget 32in TVs, as respectable black levels share the screen with punchy whites and robust colours.



This contrast is achieved without the picture suffering excessive backlight clouding. The worst you get is a faint inch of light leakage down one side – hardly a major distraction.

Colours look vibrant, presenting *Fantastic Beasts'* sometimes richly hued feathers and fur with plenty of punch, and motion suffers surprisingly little with judder or blur.

**Hisense's 32in TV offers only two HDMI inputs**

There are, of course, value-related compromises. Colours can look rather cartoonish due to a lack of tonal subtlety. Viewing angles before contrast and colour drop off are very limited. Input lag is a little high for gaming at 52ms. Certainly the H32M2600's pictures are no match for those of the £270 Samsung UE32K5600.

Nonetheless, by the time you've added a surprisingly open and clean audio performance to the H32M2600's pictures, it's hard to think of any better sub-£250 alternative ■

**HCC VERDICT**



**Hisense H32M2600**

→ £220 → [www.hisense.co.uk](http://www.hisense.co.uk)

WWW.CURRYS.CO.UK/WWW.PCWORLD.CO.UK/£130

# JVC HA-S90BN

**Mark Craven** finds these do-it-all headphones impress in some ways, not in others

**IF YOU CAN'T** stretch to JVC's £35,000 DLA-Z1 projector (see p20), the company hopes to tempt you with these active noise-cancelling, Bluetooth over-ear headphones, priced at around £130.

The asking price explains why styling and construction isn't exactly out of the premium drawer. While the folding design and relatively compact ear-cups make these easily portable (they're supplied with a mesh carry bag, too), they feel a bit loosely put together and the gloss-black plastic outer shell is a bit blingy, without actually being luxurious. They're a snug fit too, so while lightweight, you'll feel them clamping around your lugholes.

Wireless Bluetooth transmission (with NFC) is tied to a 27-hour claimed battery life – the cans charge via a microUSB input. The necessary cable is supplied, in addition to a 3.5mm cable for a wired connection. Battery life is rated at dropping to 16 hours with noise-cancelling activated and the

**The right earcup offers noise-cancelling, USB input and Bluetooth pairing control**



HA-S90BNs in wireless mode, but increasing to 35 hours when wired.

Sound quality is pretty good for the price. The 'phones cocoon your ears well even in passive mode, feeling punchy and not skewed unappealingly towards the low-end. Vocals/dialogue is well-defined, and higher-register details, while a little coarse, aren't shy. It's acceptable, rather than hi-fidelity.

While Bluetooth is great for unfettered listening, noise cancelling is perhaps the least successful part of this package; it removed some of the body from the 40mm drivers' performance, and occasionally I experienced an odd HF whine from the left earcup. Thankfully, JVC's design works well at isolating you anyway ■

**HCC VERDICT**



**JVC HA-S90BN**

→ £130 → [www.currys.co.uk/www.pcworld.co.uk](http://www.currys.co.uk/www.pcworld.co.uk)



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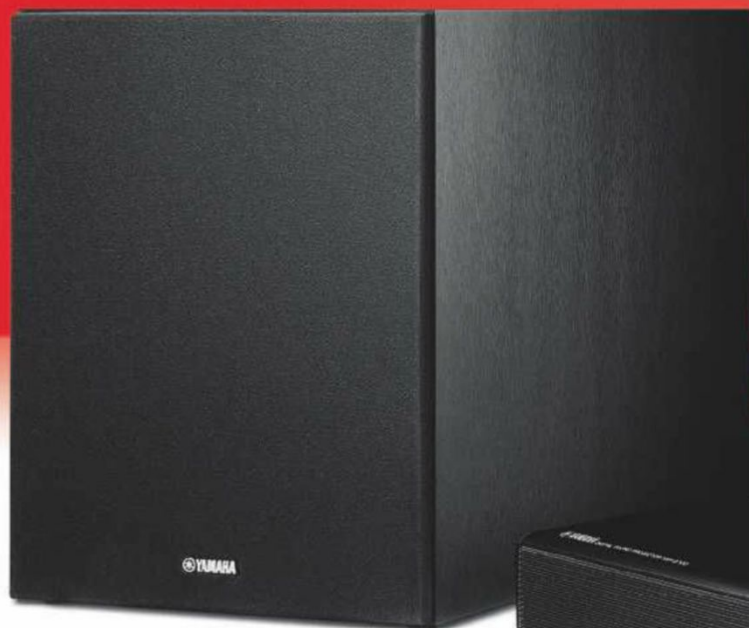
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# WIN!

# A Yamaha digital sound projector!

**IN THIS ISSUE** we're teaming up with AV heavyweight Yamaha to give away its YSP-2700 digital sound projector, worth £900. It creates a 7.1 surround sound cinema experience, using state-of-the-art beam driver technology, from a stylish and easy-to-accommodate design.

## The heart of your system

The YSP-2700 has the tech talents to take centre-stage in your viewing room. With its three HDMI inputs and one HDMI output (all capable of 4K and HDR passthrough), it can be used as a source switching hub for Blu-ray players, games consoles and set-top boxes. Bluetooth connectivity allows for hassle-free music streaming from smart devices, while Wi-Fi and Ethernet options cater for hi-res file playback from networked devices and NAS drives. And, as part of Yamaha's MusicCast multiroom range, the YSP-2700 can send audio onto other MusicCast speakers in your house, and even other brand Bluetooth speakers, while granting you quick

access to streaming services including Spotify, Napster and Qobuz.

When it comes to its all-important sonics, the YSP-2700 features both a single-enclosure speaker bar and wireless subwoofer. Inside the bar sit sixteen drivers, which angle their output to create a reflected, targeted soundfield for cinema-style aural immersion. Yamaha's IntelliBeam room acoustics calibration system automatically optimises performance to your environment. You can then make your own adjustments using the superb MusicCast Controller app.

In use, this classy-looking sound projector creates a wide, layered soundstage, with clear dialogue presentation, crisp treble and impressive low-end punch. It's a perfect partner for your Blu-ray collection – Dolby TrueHD and DTS-HD decoding are built-in.

To be in with a chance of winning a Yamaha YSP-2700, simply answer the question opposite correctly – and good luck! ■

For more info on Yamaha's range of sound projectors, soundbars, AV receivers and more, visit [uk.yamaha.com](http://uk.yamaha.com)





'Yamaha's YSP-2700 has the tech talents to take centre-stage in your viewing room. It creates a wide, layered soundstage with crisp treble and impressive low-end punch'



**To be in with a chance of winning Yamaha's YSP-2700 digital sound projector, answer the following film-related question:**

**Q: What's the name of the 1997 crime thriller starring Wesley Snipes?**

**A) MURDER AT 1600 B) MURDER AT 2100 C) MURDER AT 2700**

**HOW TO ENTER:** Simply email your answer (either A, B or C) to [competitions@homecinemachoice.com](mailto:competitions@homecinemachoice.com) with the subject line 'Yamaha YSP'. You must include your name, address and contact telephone number.

**THE CLOSING DATE** for this competition is June 22, 2017. Please read the terms and conditions (opposite) before sending in your entry.

#### Competition rules

**1.** The first entry drawn at random will win the prize. **2.** Only one entry per person/household; multiple entries will be discarded. **3.** Entrants from the UK only. **4.** Employees of MyTimeMedia Ltd and companies supplying competition prizes are not eligible to enter this competition. **5.** Please ensure your personal details are correct, as they will be used to contact you if you win. **6.** No alternatives, cash or otherwise, will be offered to the winner as prizes. **7.** The editor's decision is final. **8.** Comp winners' info available upon request. **9.** The closing date for entries is June 22, 2017.



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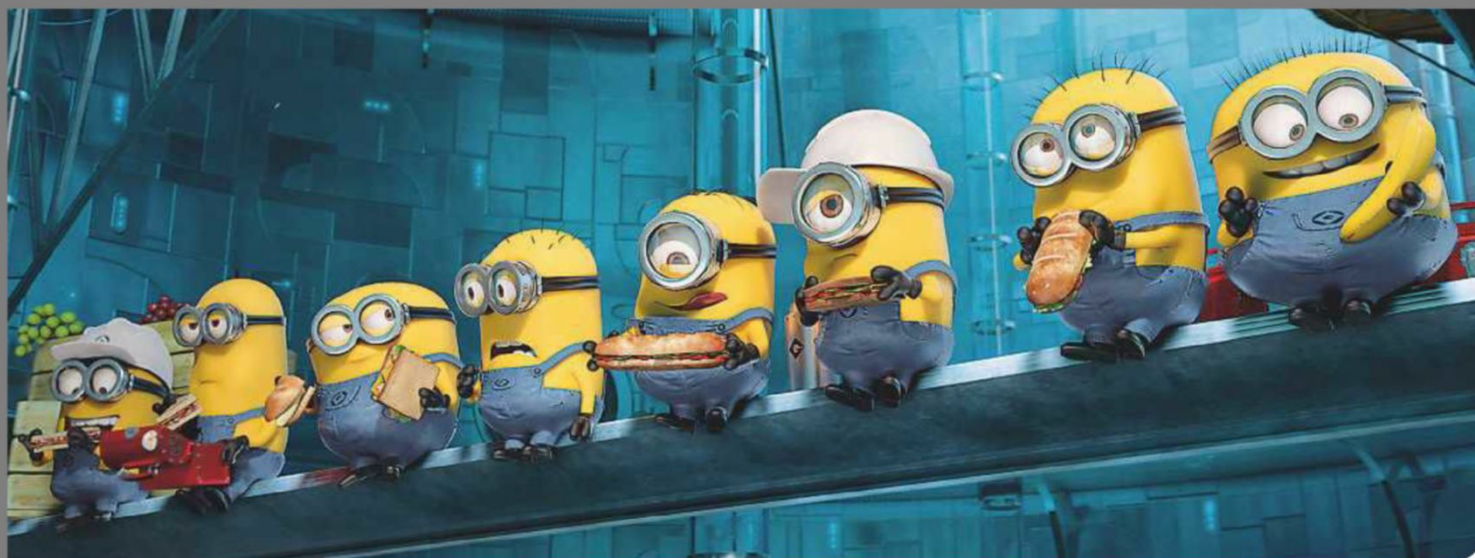


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# Digital Copy

With Dolby Vision UHD Blu-ray around the corner, **Mark Craven** is wondering whether he will need to own two different TVs to keep tabs on the changing nature of home cinema

**RIGHT. THIS IS** the last time I write about 3D. Promise. Until the next time, anyway.

Cave-dwellers may be unaware that 3D playback has been, by and large, dumped from TVs in 2017. The dumping actually started last year, with Samsung and Philips; now Sony, LG and Panasonic are following suit. As I previously wrote in this column [*HCC* #267], it's a bad situation for 3D fans. And by that I mean 3D Blu-ray fans. It'd also be a bad situation for those watching 3D TV broadcasts, but I'm not sure they exist any more.

So why am I still in a huff about this? Firstly, because I bear a grudge like *Taken*'s Bryan Mills, and, secondly, because the situation is getting even worse as Ultra HD Blu-ray gains traction.

## Alice doesn't live here anymore

While reviewing *Resident Evil: Afterlife* on 4K BD for the previous issue, I was reminded how much that movie is designed to be viewed in 3D. The cinematography is a delight; a constant display of in-yer-face effects, hyped up by loving slo-mo camera work. It looks great in 3D.

Yes, it also looks good in 4K, but does Sony's new disc release let you choose between the two? Does it heck. The standard BD platter is 2D only. Anyone wanting to watch this movie in its three home variations (3D, SDR Blu-ray and 4K HDR) now needs to own it twice. And the really stupid thing is that the 2011 release was a 2D/3D platter. So why not just bundle that disc again with the new 4K makeover?

But this isn't me really moaning. I'm just warming up to the main event, which is Dolby Vision UHD BD.

Soon, Universal will release *Despicable Me* (pictured) on 4K Blu-ray with Dolby Vision HDR. To watch this, you'll need a Dolby Vision compatible

Blu-ray player, and a similarly savvy TV. Now, Dolby Vision could well be the Next Big Thing in home cinema. You may feel that you want the next TV you buy to be Dolby Vision-enabled. But what if you also want to continue to enjoy your 3D Blu-ray collection? Then you're left with a very limited choice.

No TV released this year will be of any use. Find one that supports Dolby Vision, and it won't play 3D. You need to track down one of LG's 2016 TVs, or Sony's ZD9, which should be getting a Dolby Vision firmware update. But these sets won't be on shelves forever.

*Despicable Me* also exists on 3D Blu-ray. And whether or not you think that 3D is/was just a cynical money-making exercise, at the end of the day, the stereoscopic version is a piece of art. **No less of a piece of art than the Mona Lisa, just much more affordable.**

The Dolby Vision HDR encode of *Despicable Me* will also be a piece of art. Someone, somewhere has spent time working on the image, really making those yellow Minions zing off your screen.

If you want to enjoy both these pieces of art, and can't snaffle one of last year's LG TVs or a pricey ZD9, you will need to have two TVs. I'm used to the idea of perhaps needing different players to juggle formats, but having two different screens? This is, dare I say it, madness.

But perhaps the reason I'm really annoyed is because I've become one of those people. The sort of person who wails about changing technology, and eulogises about old things that no one else really cares about. I'd much rather be singing the praises of everything AV, from cutting-edge displays to groundbreaking discs. I'll try that next issue ■

*Are you ready to throw your 3D TV in the bin?  
Let us know: email letters@homecinemachoice.com*

Just to make sure he's really futureproofed, **Mark Craven** is now on the look out for a Dolby Vision-enabled sandwich maker





# Film Fanatic

Waving a final farewell to his old *Phantasm Sphere* DVD boxset leaves **Anton van Beek** pondering some of the problems with 'collectible' Blu-ray packaging...

**THIS MONTH HAS** witnessed something truly momentous in the van Beek household; something that I had never thought would actually occur. After 12 years, my *Phantasm Sphere: The Complete Collection* DVD boxset has been consigned to the dustbin. No longer will this once shiny, silver plastic ball clutter a shelf in my home, acting like some sort of giant dust-magnet.

In a way it feels like the end of an era. Not just because **the *Phantasm Sphere* was the last major DVD boxset that I had been hanging on to**, but because it was also the last remaining piece of obvious 'novelty' disc packaging in my collection.

That's not to say that I don't still splash my cash on collectible boxsets. I most definitely do. But, while often beautifully designed, these all tend to be of a more traditional shape and size (i.e. a box), and easier to store on a shelf with my other standard Blu-rays.

There are exceptions, though. The *Bond 50*, *Stanley Kubrick: The Masterpiece Collection* and *Withnail and I* boxsets are all landscape-format affairs that have to be stood on end to fit alongside other discs, while both the *Star Wars: The Force Awakens – 3D Collector's Edition* and *US Apocalypse Now: Three-Disc Full Disclosure Edition* are taller than regular Blu-ray Amaray cases. But apart from upsetting my OCD when it comes to neatly ordering my movie library, these Blu-rays don't cause any significant storage problems.

And I'm still a sucker for an elaborate 'Limited Edition' Blu-ray set offering more than just the disc in a box. But these days I'm far more likely to plump for something like Arrow Video's upcoming *Bird with a Crystal Plumage: Limited Edition* (which squeezes art cards, a poster and a 60-page book into a Blu-ray-sized slipcase) than the same label's *Pieces: Deluxe*

*Limited Edition* (which would require me to also find space to store and display a 180g 12in vinyl of the score and a saucy jigsaw).

## Steelbooks and slip-covers

Over-designed, oversized Blu-ray boxsets send a cold shiver down my spine. I have a similar response to steelbooks, ever since I imported the *Friday the 13th: Complete Collection* from the US. Having made its arduous journey across the Atlantic, this embossed tin boxset was eventually delivered to my house with a bunch of dents in the front. Despite doing my best to gently knock them out, there are still obvious dings in the bottom-right corner of the front cover that drive me mad every time they catch my eye.

Then there are the slip-covers that so many Amaray cases come wrapped in these days. I'm not opposed to them (one that really – ahem – stood out for me was the *Jennifer's Body* slip with its heavily-embossed recreation of Megan Fox's chest), but I'd really appreciate a certain amount of consistency. That way if I'm collecting, say, every classic Disney animation, I'd like to know that I'm guaranteed a slip-cover on every title, rather than just the majority of them, or not from one retailer but from another. That way at least they all match up on the shelf. Do I sound like a picky collector? Certainly, but I'm not alone – a market for second-hand slips has emerged online, such is the panic felt when you accidentally sit on one and ruin it.

Now, if you'll excuse me, I've got to pop out to pick up my new *Phantasm 1-5: Limited Edition* BD boxset, complete with yet another replica sphere. Well, why else would I throw out the old DVD set? I'll grab a new feather duster while I'm at it... ■

*Are you a fan of collectible, limited edition Blu-ray packaging? Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Anton van Beek** loves a boxset, but draws the line at the 30-disc Middle-Earth Limited Edition with wooden disc shelf and £500 ticket





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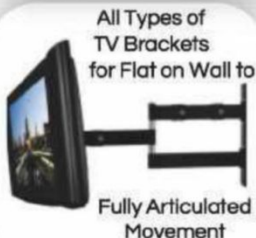
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# In The Mix

HDR 10+ is another format for video purists to be intrigued by, which suits **Jon Thompson** fine. He's more worried that it takes an external processor to get his HDR projector looking its best

**IS SAMSUNG'S NEW** HDR format one too many? Well, we already have HDR 10, HLG and Dolby Vision, so HDR 10+, introduced by Samsung and to be used by Amazon, is certainly an odd one. Odd because it's what HDR 10 should have been in the first place.

A dynamic version of HDR 10, its brightness metadata changes on a frame-by-frame basis very similar to Dolby Vision. Dolby Vision still has the superiority that it can be 10- or 12-bit, plus better PQ encoding due to some proprietary features, though.

HDR 10+ content, initially, will be limited. In post-production, the grading tools for HDR 10+ are coming firstly from my old friends at Colorfront, using its Transcoder and MulticoreWare x265 applications. Founder Mark Jaszberenyi is a real genius, who in the late '90s created a truly non-linear grading system for colourist Peter Doyle to grade Peter Jackson's *Lord of the Rings* trilogy. **I've seen and used these apps**; they're sophisticated and a powerful tool for wrapping and encoding not only HDR 10+. It can, from the same file, also make a Dolby Vision version with an HDR 10 base layer.

My issue with these HDR formats is not so much whether there's going to be a ruinous format war – I do see consumers getting very confused – but that if you use a projector, you are a bit stuffed.

First, none of the systems work that well with current HDR TV sets as most of them are not bright enough to reproduce the image as it's intended. They all use tone mapping to simulate the dynamic range of the picture within the limits of the TV. And a projector is never going to be anywhere close to 1,000 nits. In fact, you will be lucky to get 50.

Projectors have HDR tweaks, but on the whole they're unsuccessful. On Sony's models, they seem to crush blacks with no control to correct that; on JVC's you do get a control to adjust the black level

in HDR, but again the image has no real pop, which is one of HDR's selling features.

And then there's contouring and banding in HDR modes. In fact, what's happening is the image is converted into SDR range on the PJ, with a more dynamic gamma to take advantage of the peak brightness. Unless your TV can achieve the nits that the image was mastered in, it is doing the same thing. You're watching pseudo-HDR. Get over it – if a film is mastered at 4,000 nits, and you can't display it at that level, you are going to have to fudge it somehow.

To solve my PJ problem, I've been testing a beta version of Lumagen's HDR remapping tool for its Radiance Pro image processor. This device allows a high-end PJ to do what it does best – which is project – and takes image processing off its hands.

For the first time, I had controls. You tell the Lumagen what your screen is illuminated too – say, 30 nits. You then turn on HDR remapping, and get numerous tools to manipulate your HDR input to give the best-looking pseudo-HDR output. I tried some punishing discs, such as Reese Witherspoon's *Wild*, which is mastered at 1,100 nits due to being graded on a consumer Samsung TV, and *John Wick* in 4K HDR. The Lumagen reported the disc metadata nit level and then retracked it down to 30 correctly. With *John Wick*, the black suits were black, whites were bright and clean, and, importantly, the colours were strong and bold, matching the look intended in the grade. It was a very natural-looking HDR Image.

It seems that in this rush for next-generation images, PJs have been overlooked. Fortunately the Dolby Vision system has a whole projector spec as part of the format. If only we had some Dolby Vision UHD Blu-rays and a projector that supports it... ■

*What have your experiences of HDR been so far?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at [@johnnyfocal](https://twitter.com/johnnyfocal)





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# Feedback

Got an axe to grind? Need to comment on current technology? Want to share your knowledge with our readers? **Team HCC** is here to help

## So many questions!

I have been a home cinema fan since the early nineties and am pleased to say I have also been an avid reader of your publication since issue #1!

Over the years I have owned a number of different systems but my current setup is comprised of a Pioneer Kuro KRP500A TV; Onkyo TX-NR828 AVR; Panasonic DMP-BD50 BD player; B&W DM603 L/R channel floorstanders; DM601 surrounds; CC6 centre; AS6 subwoofer; and a pair of Cambridge Audio S20s employed as back surrounds in my 7.1 setup. The B&Ws are just over 20 years old now but I really love the sound and see no reason to upgrade them, although the sub is probably the weakest link! My room dimensions are 17ft x 11ft x 8ft (L/W/H).

I am now looking to upgrade to 4K HDR and 7.1.4 Dolby Atmos and am considering a number of different purchase options to get the very best performance for my money, with a total budget of around £8,000. In an attempt to future-proof as much as possible I would like to include Dolby Vision capability if affordable. With this in mind, and having decided to go with OLED, I appear to be limited in choice to the LG OLED65E7 or



Sony's 65in A1 OLED TV will set you back £5,000

the Sony A1 (which will probably be outside my £5,000 TV budget) and partnering it with the Oppo UDP-203 4K BD Player (£650) and the Denon AVR-X6300H (which can now be found for £1,250). For Atmos duty I am also looking to add two pairs of KEF R50 upfiring speakers (£600/pair). I therefore have a number of questions.

1. Is the Denon AVR-X6300H Dolby Vision compatible or would I need to connect the Oppo directly to the screen to take advantage of this?

2. Do you think it wise to take Dolby Vision so seriously now? Especially as its inclusion at this point provides rather limited buying options? (Obviously, it will be a good number

## This makes me Furious

Following the Star Letter in the last issue moaning about missing Dolby Atmos soundmixes on Ultra HD Blu-rays, we now have the likes of *Fast & Furious 6* apparently coming out with non-lossless soundtracks. Yet another instance of real fans being poorly treated by companies that don't seem to care about quality.

*Gary Smith*

**Anton van Beek replies:** Universal has dropped a clanger with its UHD releases of the sixth and seventh *Fast & Furious* movies, inexplicably eschewing DTS-HD MA in favour of lossy DTS-HD HR (and worse on the extended cut for *F&F 6*). I can only imagine someone hit the wrong box on the disc authoring software. The good news is that there's been such an uproar amongst AV fans that I doubt the studio will make the same mistake in the future. See p107 for more.



Vin Diesel revs up for a soundmix debacle



of years before I can upgrade at this level again, and I don't want to miss out on something as good as Dolby Vision, like I did with 3D!). I was originally waiting to see the pricing of the new Panasonic EZ1002 or the step-down EZ952, but the company's lack of commitment to Dolby Vision at this time seems disappointing. Do you think it might be possible to firmware upgrade these to be DV compatible in the future?

3. Do you have any advice regarding the Denon (or an alternative 11-channel AVR in the same price bracket) or the addition of the KEFs as Atmos speakers?

4. Would the KEFs tonally match the B&Ws or would the PSB Imagine XAs be a better choice with my setup?

*Anthony Winter*

**Mark Craven replies:** This sounds like an interesting, exciting upgrade, and we'll try to answer your questions....

1. The Denon AVR-X6300H is not Dolby Vision compatible. At least, not at the moment. I've asked Denon on a couple of occasions if its models might get a firmware upgrade, but it couldn't confirm. In light of Yamaha announcing a Dolby Vision update to 2016-era AVRs, I would imagine it's possible Denon will follow suit. But that can't be guaranteed.

As you suggest, however, you could use the Oppo player's split HDMI outputs to send the Dolby Vision video signal straight to the LG OLED TV.

2. As we say in our feature on p30 in this issue, it's probably wise to buy into a Dolby Vision-capable Blu-ray player if you already own a capable TV. That way you are keeping yourself covered. But you are right that adding support for the format to a system right now results in limited buying options.

You say you've decided to go with OLED, but is this just for Dolby Vision? If it's a choice based on image quality preference (an OLED TV will feel like more of a continuation of your Pioneer plasma), then you're already limiting your buying choice a touch. Dolby Vision will reduce it two brands (both with £5,000 65in models); without it you can Panasonic and Philips models to the audition list.

It's a big decision to make. Should you perhaps hold off on the TV upgrade to see what other Dolby Vision BD titles are announced? It's your call...

3. Regards the Denon AVR and the speakers. There's no 11-channel AVR around right now at a similar price point; Pioneer's 11-channel SC-LX901, for instance, is a £2,000 machine. In our review, we loved the convenience, setup flexibility and general performance of the Denon, but did note that it's not as impressively powerful as the brand's (nine-

## ★ Star Letter...

### Soundbar selecta!

**I'm looking for advice on buying a speaker system for a smallish room – 3.5m x 3.5m. I have a 55in SUHD Samsung 7 Series TV. I am looking to spend £350-£400 on a soundbar or potentially the Bose Cinemate GSII. Any suggestions about a soundbar or 2.1 or 5.1 systems?**

*Cameron McGregor, via Facebook*

**Richard Stevenson replies:** There are plenty of options available to you Cameron. The hard part is making a choice between them. You might want to actually start by considering design/form factor. Does a soundbar with separate subwoofer suit more than a soundbase speaker without a subwoofer?

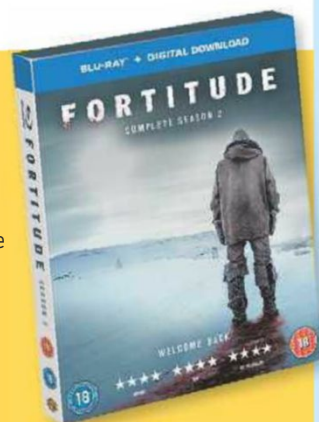
Sticking to your £400 max budget, a soundbase speaker like Canton's DM75 (£330) is a good consideration, with excellent all-round sound quality and a nice, unobtrusive design. But HDMI switching/Wi-Fi streaming, etc, aren't present. LG's single-box SH6 soundbar (£260) is undoubtedly less sonically refined, but offers HDMI in/out, Google Chromecast streaming, Wi-Fi/multiroom smarts and still manages to muster a fulsome, energetic and spacious sound. Other models we like around the same price bracket are Q Acoustics' M4 soundbar,

Orbitsound's One, Cambridge Audio's TV5 v2, Yamaha's YSP-1600...

Getting a genuine 5.1 system either requires an amplifier as well (unless you have one) or complete all-in-one package. The latter used to be common, but are hard to find these days, and we haven't tested one in a while. They introduce a lot of cabling that needs to be dealt with too, and while they are more immersive when it comes to authentic surround, at that price they're not going to knock the socks off the soundbar/soundbase models mentioned.

I'd suggest giving your TV speakers a rest, getting a soundbar or soundbase and enjoying the upgrade, and saving 5.1 for another day. And I think the Bose 2.1 system is out of your price range.

Star letter-writer Cameron grabs the latest season of the chilling TV thriller *Fortitude* on Blu-ray™ courtesy of Warner Bros. Home Entertainment. Available now on Digital HD, Blu-ray™ and DVD, *Fortitude: The Complete Season 2* finds the isolated Arctic settlement facing up to a terrifying new threat when a headless body is found on the outskirts of town. A double-pack containing both seasons of *Fortitude* is also available on DVD and Blu-ray.



Canton's DM75 features four integrated bass drivers

channel) AVR-X7200. It probably has similar levels of grunt to your existing Onkyo.

You need to consider where and how you will install your four upfiring speakers, so check out Dolby's website for Atmos installation guidelines. The KEFs should place atop your B&W floorstanders and DM601 surrounds, although (having checked the specs) they are slightly deeper than the latter, so make sure they aren't 'hanging out' over the front baffle.

4. The PSB upfiringers would be a more affordable choice, certainly – you'll save

around £500 over the cost of the KEFs.

We preferred the pricier KEFs, however, not just because of their tidier design, but in their dispersion and snappy delivery. Although, as we said when reviewing the PSBs, differences become more hard to discern when listening to a full-fat Atmos soundmix. See if you can get a demo of both!

### Downmixing is the problem

I have to agree with Mark Craven that quite a lot of the dialogue in TV drama is lost through the character/actor mumbling, >

but I think a lot of the problems are down to the soundmix when played back through crappy TV speakers.

I often have to put the subtitles on English-language dramas for my Mum who has an eight-year-old Sony 32in stereo LCD TV. I've noticed it's particularly bad on dramas broadcast in 5.1 as the soundtrack and surround effects seem to drown the dialogue when mixed down to 2.0. When I watch the same broadcast on my receiver/5.1 system I don't have any problems understanding them.

My Mum stopped watching certain US dramas because they always wrap up with an annoying rock/pop tune which seems to totally drown out dialogue on the last scene (yes, I'm talking about you, *Suits*). I must admit I find that annoying even on my system.

Ian Caslake

**Anton van Beek replies:** Having finally caught up with *SS-GB* (pictured, right) and viewed through my multichannel system, I found literally only one instance where there was dialogue I couldn't understand, and that was from someone speaking in heavily-accented German!

**Mark Craven replies:** I actually watched the first episode of this through TV speakers, and



then re-watched some through my amp after getting wind of all the criticism. As you'd expect, it was undoubtedly an easier listen in 5.1, but – as previously said in this magazine – not the last word in dialogue clarity, due to Sam Riley (in particular), choosing to chatter away through a mouthful of gravel.

### So near, sofa

Steve May described himself as 'old-school' because he prefers to watch movies with a 1080p projector rather than a 4K HDR

TV [AV Avenger, HCC #270]. He explains that's not because his projector is brighter, has more resolution or dynamic range, but because it has a bigger screen. But is it really bigger? If he sat, say, eight feet from a 65in TV he would have a larger field-of-view than if he sat 15 feet from his 110in screen. He could upscale to an even bigger 75in TV, sit further back and still spend less than some mid-range projectors.

For the ultimate immersive experience, he would choose to sit in the front row of a

## WIN! Great Blu-rays up for grabs...

Just email your answer to [Competitions@homecinemachoice.com](mailto:Competitions@homecinemachoice.com) to be in with a chance to win



### La La Land

The smash-hit musical starring Emma Stone and Ryan Gosling is out now on Digital Download, DVD, Blu-ray™, Limited Edition Steelbook and 4K Ultra HD Blu-ray™

courtesy of Lionsgate UK. To celebrate the release we've got five *La La Land* 4K Ultra HD Blu-rays™ to give away!

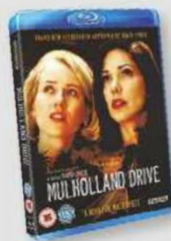
### Question:

'La La Land' is the nickname for which American city?

### Answer:

- A) San Francisco B) Los Angeles  
C) Las Vegas

Email your answer with '*La La Land*' as the subject heading – and don't forget to include your postal address!



### Mulholland Drive

Voted the best film of the 21st century, David Lynch's electrifying neo-noir returns in a new director-approved 4K restoration. *Mulholland Drive* is available to buy on DVD, Blu-ray and EST from

May 22, courtesy of StudioCanal. To be in with a chance of winning one of five Blu-rays, simply answer the following correctly...

### Question:

David Lynch directed which of the following 1980s science-fiction epics?

### Answer:

- A) *Blade Runner* B) *Return of the Jedi*  
C) *Dune*

Email your answer with '*Mulholland Drive*' as the subject heading – and don't forget to include your postal address!



### Prevenge

Alice Lowe writes, directs and stars in this comedy about a pregnant woman driven to evil deeds by the voice of her unborn child.

*Prevenge* is available to download from May 28,

then DVD and Blu-ray on June 5, courtesy of Kaleidoscope Home Entertainment – and we've got five Blu-rays up for grabs!

### Question:

Alice Lowe played actress Madeleine Wool in which British cult TV series?

### Answer:

- A) *Garth Marenghi's Darkplace* B) *Spaced*  
C) *The League of Gentlemen*

Email your answer with '*Prevenge*' as the subject heading – and don't forget to include your postal address!

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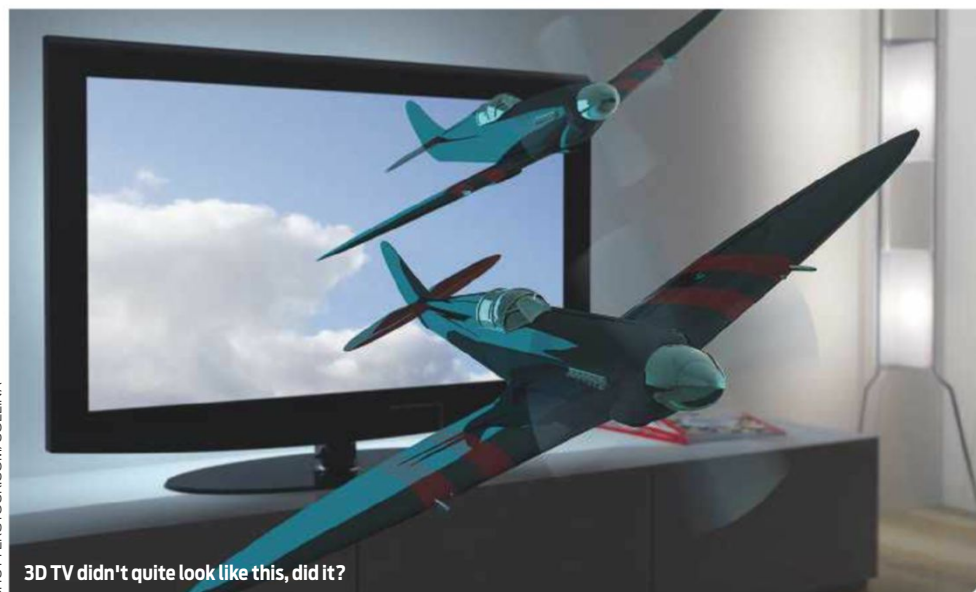


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cinema and enjoy a 50-degree or 60-degree field-of-view. Which is why I suspect in Steve's viewing room the position of his sofa is as important as the size of his screen. Maybe the AV Avenger is just making an ontological argument; but from where I sit, the question of screen size is essentially a subjective one rather than an objective one.

Jon Mitchell

**Mark Craven replies:** Of course, where you choose to sit is always the first element in the great 'what size screen do I need?' debate. But the different viewing experience available from, say, a 55in TV and a 100in projector screen would equate to quite a serious furniture move-around! Unfortunately, for most people, their sitting position is pretty much fixed, as is the place where they can install their TV/screen.

I've been to the cinema with Steve. He always sits in the front row. It's annoying.

### Could 3D return?

Hi. Why is it that manufacturers seem so adamant on dropping 3D from their TV ranges, but still release new UHD Blu-ray player models with 3D capability? Is that a strong hint that 3D will appear again in 4K sets soon?

Tim Wardlaw

**Mark Craven replies:** I doubt it. I imagine the simple answer is that 3D playback is built into the chipset design that Blu-ray player brands are using, so it's essentially present whether they care about it or not.

3D is no longer a sales driver for TV. Until other elements of the home entertainment industry can prove there's a demand for it, don't expect to see it making a comeback.

### Here's my shopping list!

Mark Craven asked how much we spend on Blu-rays/Netflix, etc [*Digital Copy, HCC #272*], which caused me to have a think.

In a typical month, I probably buy two-to-four new Blu-rays, depending on what's out. I may also pick up some more if I see good deals on buy-one-get-one-free, etc. On top of this I subscribe to both Netflix and Amazon video. My TV package is Freesat, through my TV, instead of Sky or cable.

So I probably spend around £80 a month maximum, which is actually close to £1,000 a year, but is worth every penny. And this doesn't include occasional family trips to the cinema.

I'd love Blu-rays to be cheaper, but as Mark says at least we are getting the best out of them with Atmos, etc.

Paul

### And mine!

Good article – made me think! I too have the full Sky package plus BT Sport and Netflix. I have had a few lean years in my home cinema, but I'm back buying Blu-rays again to get the most out of my upgrade – 5.2 Klipsch floorstanding system and incoming Marantz SR7011 AV receiver, plus Atmos speakers. Fifteen to 18 euro at Tesco for a Blu-ray isn't so bad, but I'm not going UHD yet as my Pioneer Kuro 60in plasma still looks great.

Martin Gillespie

**Mark Craven replies:** Thanks Paul and Martin. I'm now beginning to wonder if there is anyone left in the country who doesn't have a Netflix subscription. Anyone out there giving streaming the cold shoulder, get in touch! ■

### Contact us...

Write to HCC, AV Tech Media Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent, TN8 6HF, or email us at [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com). Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.



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# Certified: AV-Holic!

HCC reader **Steve** enjoys bringing his projector screen down for movie night, but is waiting for 4K formats to settle before considering any upgrades



The 100in, 16:9 ratio projector screen features RF-based motorised control, which annoyingly can't be integrated into the IR-based Logitech Harmony remote...

Right: The BenQ W1070 projector is ceiling mounted  
Below: For everyday use, our AV-Holic is sticking with his 40in Samsung Full HD TV, until a 4K upgrade







### Name, age and occupation:

Steve Fisher, 40. I'm a company director.

### System kit-list:

I have two screens:

a 40in Samsung LE40C530FIW TV, and a 100in projector screen used with a BenQ W1070 Full HD projector.

My speakers are KEF Q35.2s (front left/right), a KEF Cresta C centre, KEF Coda8s and Gale Storm8 subwoofer. My AV receiver is a Sony STR-DN610.

Sources are a Sony BDP-S470 Blu-ray player, Sky box, Amazon Fire Stick and WD TV Live streamer. Other bits includes a Logitech Harmony remote and Akord HDMI switch.

### What was the last thing you added to your setup?

An Amazon Fire TV stick. It was the only easy way to watch Amazon Prime Video on my system as it isn't integrated into any of the other tech. For its size it's very impressive and the control is very slick with the app.

### Are you thinking of upgrading anything?

I would love to add a 4K TV but I'm holding off until I have a 4K content source and the HDR standards are a bit more established. Also, for fun, an Echo Dot for very lazy voice control.

### What's your favourite bit of kit, and why?

How about favourite and most frustrating in one? The WD TV Live box is great for watching our home videos and photos on the TV or bigscreen and creating a movie jukebox, but it's interface is slow to navigate



Steve's TV stand has space for AVR, centre speaker and source gear

and it frequently loses connection to my network storage.

### What movies do you use to show off your system?

Although our setup is 3D-capable and this does impress people, it's really only something I demonstrate rather than sit down to enjoy. *Jurassic Park* 3D is a great retrofit, and *Avatar* is also stunning. For hi-def the projector screen really shows off Pixar films well – *Cars* looks particularly vivid and sharp, as does something more epic like *Lord of the Rings*.

### And what are your Top 5 favourite flicks?

A tough question! *Blade Runner*, *Se7en*, *Back to the Future*, *Who Framed Roger Rabbit*, and the *Lord of the Rings* trilogy.

### Do you stream movies/TV from Netflix/Amazon/Sky etc?

We have Sky and recently we've added

Amazon Video. I particularly like having Dolby Digital surround through the on-demand services, as this really enhances the whole cinema experience.

### Does the setup get a lot of use?

We usually have the TV in place during the week and bring the screen down for weekends. With two young children our movie repertoire tends towards the Disney collection, but it's a lovely way to share family time. And we get to see a movie on the bigscreen once the children are in bed.

### What do friends/family think of the cinema?

It meets with almost universal admiration, most people then try and work out where they can have one of their own!

It's been a family interest for years as I helped my parents create their first home cinema back in the late '90s when a standard-definition projector cost £4,000! ■

## Share your cinema system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips...

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on

whatever lights are fitted. Avoid using flash wherever possible.

4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

5. Don't be shy. Send a picture of yourself!

6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

**Now what?** Email your images to [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com) with the subject heading 'AV-Holic', and provide your answers to the questions above – then we'll be in touch!



### ...And blag Denon's AH-MM200 headphones!

The kind people at Denon are giving away a pair of portable, over-ear headphones to our AV-Holic each month. The AH-MM200s, which typically retail for £120, feature 30mm triple-layer drivers, lightweight earcups and have been tuned to deliver a smooth, natural and faithful tonal balance. Two cables are provided – one with integrated controls and mic for portable use, another longer cable for home entertainment.



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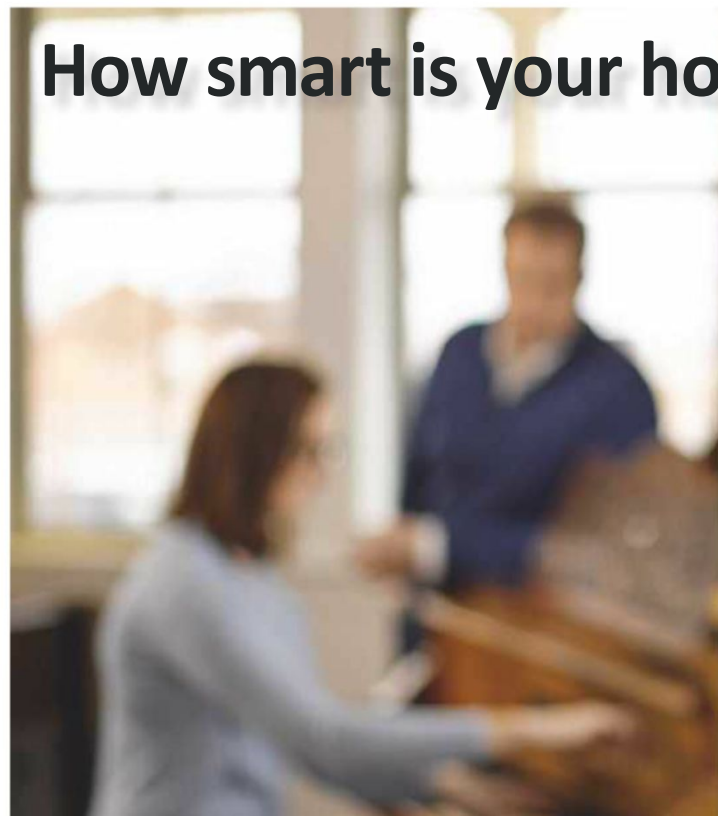
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# PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **HACKSAW RIDGE** Mel Gibson's World War 2 drama celebrates pacifism and AV bombast **LA LA LAND** Is the hit musical worth making a song and dance about on Blu-ray? **THE GREAT WALL** Matt Damon heads to China to battle monsters **ASSASSIN'S CREED** Videogame adaptation sneaks up on Ultra HD Blu **& MORE!**

## Horror with balls

Phantasm 1-5: Limited Edition → Arrow Video → Region B Blu-ray

Fans of the Tall Man and his deadly silver spheres have plenty to celebrate as the cult fright franchise makes its bow on Blu-ray. Head over to p96 to see if we're 'phans' of Arrow's boxset and its new 4K restoration of the 1979 original.

### HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed





Burt's narcolepsy always seemed to strike at the very worst times



# (Not) killing in the name of...

Mel Gibson's contradictory biopic celebrates pacifism *and* the brutality of cinematic action



## → HACKSAW RIDGE

Based on true events, this thrilling World War 2 drama directed by Mel Gibson tells the story of Desmond Doss, the first conscientious objector to be awarded the Medal of Honor.

Played by former *Spider-Man* actor Andrew Garfield, Doss is a devout Christian and pacifist who nonetheless enlists in the Army following the outbreak of the war in order to do his part as a combat medic. Naturally, his refusal to even pick up a weapon doesn't sit well with his superiors.

If this first half of the story is fairly quaint and comfortable, the second half is a completely different beast. Shipped off to the titular Japanese-held frontline during the Battle of Okinawa, Doss finally gets to prove himself as he single-handedly stays around to save injured colleagues and dodge enemy patrols, after US troops are beaten back by the relentless tide of kamikaze Japanese soldiers.

If you've ever seen *Braveheart*, *Apocalypto* or *The Passion of the Christ* then you'll know that Mel Gibson isn't the most subtle of filmmakers. Everything in his movies tends to be writ large, from emotions to action – and that is just as true of *Hacksaw Ridge*. The battle scenes in particular are thrillingly in-your-face, with Gibson apparently trying to outdo *Saving Private*

*Ryan* with the sheer amount of gore he throws around the screen.

While it might seem odd for a film to be so enamoured of the horrors of war while its narrative preaches something else, there's no denying it makes for a marvellously entertaining movie.

**Picture:** *Hacksaw Ridge*'s AVC 2.40:1-framed Full HD encode is a thing of utter beauty, even as it's packed with images of horrible things being done to the human body. Shot using digital cameras, the film never looks anything less than pin-sharp, while the natural colour palette gives it an appealing sheen throughout. In fact, the only issue we noticed was a brief instance of banding as a flare illuminates the sky during Chapter 11, but even this was so minor and fleeting that you'd have to really look for it.

**Audio:** After a fairly understated opening hour, the film's Dolby Atmos mix explodes into life with Chapter 8's bombardment and doesn't let up from there. What follows is an immersive, visceral and directional mix that ranks among the very best tracks we've heard. One for your demo disc collection.

**Extras:** In lieu of a commentary track, Lionsgate's disc houses an insightful 70-minute *Making of...* documentary, which also includes some thoughts from Doss' son about his father and the film. A further featurette and six deleted scenes are also included.



## HCC VERDICT

### *Hacksaw Ridge*

→ Lionsgate → Region B BD  
→ £25

**WE SAY:** Mel Gibson's rousing, boisterous yet harrowing WW2 drama makes for a spectacular home cinema experience.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★





## Sing

Universal Pictures → All-region BD  
£25

The most surprising thing about this toe-tappingly cheerful, if utterly formulaic, cartoon musical is

that it was written and directed by Garth Jennings, whose last film was the superb *Son of Rambow*. While *Sing*'s pop-tastic setup and undemanding plot make it suited to a younger audience, the Blu-ray still has something to offer older home cinema fans thanks to its immaculate 1.85:1 Full HD animation and its spacious and involving Dolby Atmos soundtrack. Bonus bits are plentiful, if all rather short. At least the disc's trio of spin-off 'mini-movies' are pretty funny.



## Split

Universal Pictures → All-region BD  
£25

It's been a long time since audiences got excited about a new M. Night Shyamalan movie. While *Split*

doesn't measure up to his early hits, this tense thriller about three teenage girls kidnapped by a man with 23 distinct personalities (James McAvoy, clearly having a blast in the role) represents a step in the right direction, while also hinting at bigger things to come. This Blu-ray release delivers crisp 2.40:1-framed 1080p visuals and atmospheric DTS-HD Master Audio 5.1 sonics. Sadly, the extra features promise more than they actually deliver.



## Underworld: Blood Wars

Sony Pictures → All-region BD  
£25

Like some sort of cinematic vampire, the *Underworld* franchise has risen from the grave once again to bore audiences to tears with a tale of vampire politics,

rampaging werewolves and slow-motion gunfights. Even when judged against the terrible previous films in the series, *Underworld: Blood Wars* is an especially dire flick that makes 90 minutes feel like an eternity. The sharpness and clarity inherent in the film's 2.40:1 Full HD encode are mostly wasted on impenetrably gloomy photography, leaving it to the aggressive DTS-HD MA 5.1 mix to provide any real AV thrills.



## Musical fable hits the right notes

This homage to classic song-and-dance films continues its winning ways on Blu-ray

## → LA LA LAND

Having demonstrated a flair for rhythm-based cinema with 2014's *Whiplash*, writer-director Damien Chazelle took it a step further with this fully-fledged 21st century Hollywood musical. What emerged was a slice of cinematic spectacle that wowed critics, audiences and award-givers with its mix of romance and nostalgia.

Emma Stone and Ryan Gosling play Mia and Seb, two young Los Angeles wannabes chasing respective dreams of becoming an actress and opening a jazz club. Following a couple of fractious early meetings the duo slowly warm to one another until – in time honoured tradition – romance blossoms. But can Mia and Seb's love survive the compromises and sacrifices they both must make as they strive to keep their dreams alive?

As saccharine as this all may sound, *La La Land*'s story has a bittersweet centre that is much more in keeping with Jacques Demy's *The Umbrellas of Cherbourg* than the classic Hollywood musicals that the film's visuals and music work so hard to evoke. And while neither Stone nor Gosling are particularly gifted when it comes to either singing or dancing, the chemistry they share resonates throughout the film's musical numbers, and their occasional awkwardness only makes Mia and Seb even more relatable as vulnerable characters.

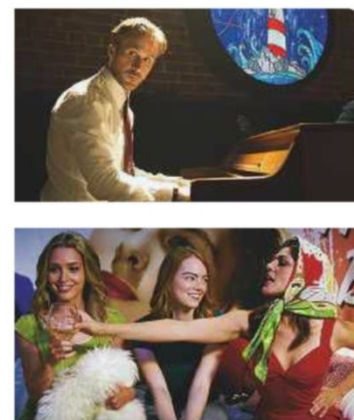
**Picture:** Presented in 2.55:1 CinemaScope, *La La Land*'s 1080p encode hits the ground running with the freeway musical number *Another Day of Sun*. Bursting with bright colours and shot by a camera that seems incapable of standing still, it's a strong



indication of the visual delights that this BD has in store for viewers. Darker scenes tend to see a slight drop-off in detail levels, but even then the encode still handles colour extremely well – just look at the way it picks out the blue of Mia's party dress as she walks into the darkened nightclub and first sees Seb playing the piano (Chapter 2).

**Audio:** *La La Land*'s Dolby Atmos mix doesn't go in for flashy overhead effects. That's not to say that it is not an immersive and atmospheric piece of sound design, but the real focus is on opening up the musical numbers throughout the speaker array, which it does wonderfully well.

**Extras:** In addition to a commentary by Damien Chazelle and composer Justin Hurwitz, the Blu-ray also finds space for 10 informative behind-the-scenes featurettes (with a combined running time just shy of 80 minutes), demo versions of two songs, three trailers and a poster gallery.



*La La Land* is the third time Stone and Gosling have co-starred in a film

## HCC VERDICT

## La La Land

→ Lionsgate → Region B BD  
→ £25

**WE SAY:** Both movie and Blu-ray release are worth singing about – even if you hate jazz.

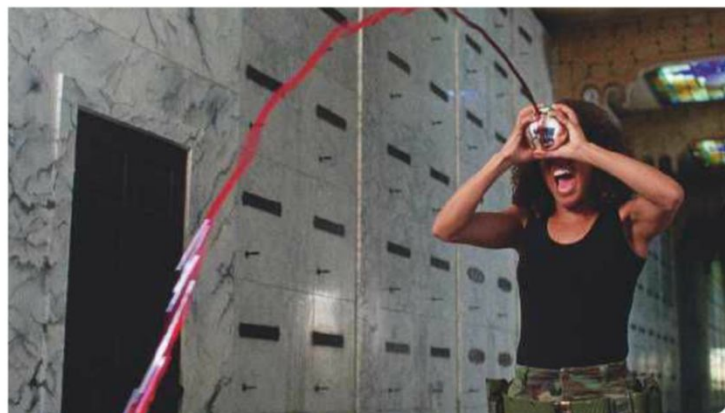
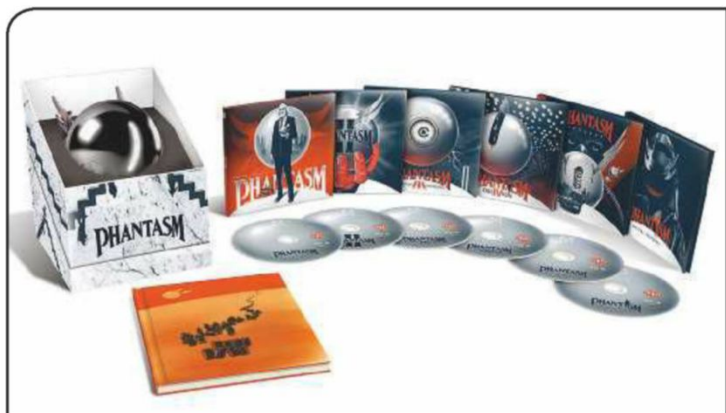
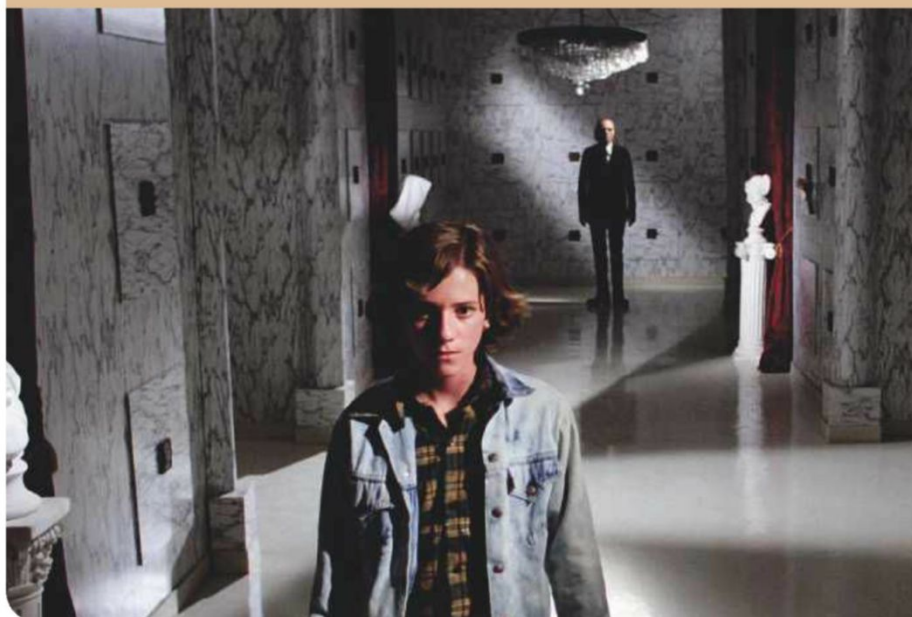
Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★



# A phantastic treat for horror heads

Arrow Video stops polishing its balls and unleashes a hefty Blu-ray boxset dedicated to one of the weirdest series of cult films ever made...

## → PHANTASM 1-5: LIMITED EDITION

After a spate of mysterious deaths in his home town, 13-year-old Mike (Michael Baldwin) becomes convinced that strange things are afoot at the local mausoleum. With the aid of his older brother Jody (Bill Thornbury) and friendly ice-cream seller Reggie (Reggie Bannister), Mike discovers that a mysterious undertaker he dubs the Tall Man (Angus Scrimm) is robbing graves and transforming the corpses into an army of murderous dwarfs. So begins a decades-spanning battle for the fate of our planet...

The fact that a *Phantasm* franchise exists at all is one of the great mysteries of the horror genre. Written and directed by Don 'The Beastmaster' Coscarelli, 1979's idiosyncratic *Phantasm* is a wildly imaginative mish-mash of horror and sci-fi concepts, where notions of coherence and logic play second fiddle to cool ideas, gory gags and sudden scares. Fun as it is (and make no mistake, it's an absolute blast) it's really not the sort of movie that was crying out for a sequel.

So it remained until the late '80s, when Universal (on the hunt for new horror franchises) bought the rights and offered Coscarelli \$3m (ten times the original's budget) to make a sequel. Upping the gore and action, 1988's *Phantasm II* finds Mike and Reggie (the former now played by James LeGros, at the insistence of the studio) hitting the road in another attempt to stop the Tall Man's schemes.

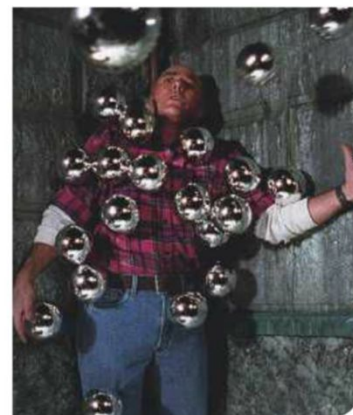
This wasn't the box office hit Universal imagined and Coscarelli was able to return to his low-budget roots for 1994's *Phantasm III: Lord of the Dead*. Bringing back all of the original principal cast (including Michael Baldwin and Bill Thornbury), this third outing finds Reggie teaming up with a sharp-shooting kid and chasing after the Tall Man, who has managed to make off with Mike.

Picking up right where its predecessor left off, 1998's *Phantasm IV: Oblivion* set about revealing the Tall Man's backstory, while making use of footage Coscarelli shot but cut from the first film (his initial cut of that movie reportedly ran somewhere in the region of three hours). This sometimes feels like obvious padding to help get around the film's





He may have started off as a guitar-strumming ice-cream seller (top) but over the course of the series Reggie Bannister morphs into a hapless monster-slayer second only to Bruce Campbell's Ash



meagre budget (just \$650,000 compared to the previous sequel's \$2.5m); at other times it works incredibly well. One reinstated scene in particular is a highlight of the series as a whole.

The franchise finally came to a close last year with *Phantasm: Ravager*. Co-written and directed by David Hartman, this flashes back and forth between Reggie hunting the Tall Man and battling dementia in a nursing home. But which is real? Allegedly made for about the same amount of money as the 1979 original and first conceived of as a series of web shorts, *Phantasm: Ravager* has all the production values and qualities of a fan-film. Beyond the low-grade visual effects, however, you'll find that it tackles the sort of big metaphysical questions that have always made this franchise so unique.

**Picture:** The 1979 original has undergone a new 4K restoration overseen by franchise 'phan' J.J. Abrams. The results are quite simply staggering, with the 1.78:1-framed Blu-ray encode revealing previously unheralded levels of intricate texturing and a more vibrant colour palette. Meanwhile, native film grain is expertly resolved.

Presumably sourced from an off-the-shelf HD master supplied by Universal, *Phantasm II* is the weakest of the set's 1080p presentations. While still an improvement on previous home releases, the 1.85:1 image suffers from a few moments of instability and traces of DNR application.

The third film (and the two that follow it) reverts to 1.78:1 framing. Image quality is generally very good,

with plenty of fine detail across close-ups and medium shots, while colours acquire a more natural appearance following *Phantasm II*'s push towards the red part of the spectrum. And for all of its cheapness, the fourth film looks even better.

*Phantasm: Ravager* is the only one of the five to have been shot digitally. The result is a very different visual style to its predecessors – some might almost call it bland – albeit one that still delivers a sharply detailed Full HD picture.

**Audio:** The first flick offers a cleaned-up LPCM mono track and a DTS-HD MA 5.1 remix. The former is the more authentic of the two, but the latter conjures up some convincing surround effects and richer bass.

LPCM stereo and DTS-HD MA 5.1 soundtracks are the order of the day for the four sequels – and our thoughts are very similar to those regarding the first film when it comes to dynamics and immersion. Dialogue is clear throughout the series.

**Extras:** Limited to 10,000 copies, this six-disc boxset is packed full of bonus features (many of which are carried over from the old Anchor Bay R2 DVDs).

There's far too much to even list in full here, but highlights include a new five-part retrospective *Making of...* documentary and an extremely touching tribute to the late Angus Scrimm by his friend and collaborator Kristen Dean. Other goodies include chat-tracks, two 'live audience' soundtracks, Q&As, deleted scenes, interviews and behind-the-scenes footage. The set also includes a 152-page book and a replica of one of the Tall Man's deadly spheres.

Equipped with drills, blade, eyeballs and even lasers (top) the Tall Man's deadly arsenal of flying spheres has become one of the *Phantasm* franchise's most iconic images

## HCC VERDICT

### Phantasm 1-5: Limited Edition

→ Arrow Video → Region B BD  
→ £100

**WE SAY:** An impressive – if costly – Blu-ray boxset for one of the oddest fright franchises ever made.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★



## Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



### Guardians of the Galaxy: The Telltale Series – Episode 1

Telltale Games → PS4, Xbox One, Microsoft Windows, Android, iOS → £5 (per episode)/£19 (season pass)

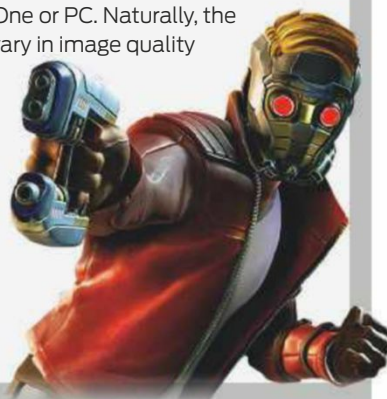
Telltale Games has carved a niche in licensed, episodic adventure games, with *The Walking Dead*, *Game of Thrones*, *Batman* and even *Minecraft* among those featured in point-and-click series. Now it turns its hand to Marvel's *Guardians of the Galaxy* and fans of both Telltale titles and the comic book heroes have plenty to enjoy.

The former will certainly find familiarity in the gameplay. Telltale's games tend to appear in multiple episodes, generally released monthly, each ending with a cliffhanger until the final chapter arrives. *Guardians of the Galaxy* is no exception, spanning five chapters that will cost you a fiver each (or you could plump for a season pass to ensure all episodes are delivered on their respective release dates).

Gameplay mechanics are very similar to all other recent Telltale adventures: you sometimes have a scene to explore, discovering plot points or puzzles that need to be solved, but it's mainly an interactive cartoon, with character development at its heart. Sometimes you'll be required to swipe your gamepad's thumbstick in one direction or another, or press an onscreen button at the right time, but that's few and far between here as this first chapter is more about exploring relationships amongst the Guardians. Still, it's a tantalising taste of what's to come.

Decisions you make during conversations are important and will come into play more in later chapters, especially with your team. For now though, it's mainly a case of sitting back and enjoying the tight scripting and superb animation, which looks glorious when running in 1080p on a PS4, Xbox One or PC. Naturally, the mobile versions of the game will vary in image quality and control method.

While this initial episode is hampered by its length (being possible to complete in under two hours), it's fun while it lasts and is a welcome and easy way to introduce *Guardians of the Galaxy* film fans into the wider world of Marvel comics.



## Mad Max: Fury Road – Black & Chrome Ed.

Warner Bros. → All-region BD  
£25



'Something about losing some of the information in colour makes it somehow more iconic,' says director George Miller in his intro to this remastered black-and-white update of his superb

action spectacular. Your personal take on the result of Miller's tinkering will no doubt rest on how wedded you are to the original incarnation's searing palette; as it happens we prefer the colour version, but can still see what Miller is getting at here. This 'Black & Chrome' disc comes bundled with the original (full-colour) Blu-ray, but not the 3D or 4K versions.



## O.J.: Made in America

Dogwoof → All-region BD  
£23



Running over seven-and-a-half hours, this award-winning documentary uses the rise and fall of Orenthal James Simpson to explore the issues of race relations and celebrity in recent

US history. If this sounds in any way boring, rest assured that *O.J.: Made in America* is an astonishing piece of long-form filmmaking that grips from the start and never lets go. Splitting the documentary into three parts and spreading these across two discs, this Blu-ray copes admirably with the mix of new interviews and archival footage (stretching back to the '60s). Vintage extras include a 1995 ESPN interview with Simpson.



## Broadchurch: Complete Series 1-3

Acorn Media → All-region BD  
£50



With the final series having finished on ITV, this Blu-ray boxset gives viewers a chance to evaluate the hit crime show in its entirety. As it happens, the three series hold together extremely well – a mega boxset binge is easily recommended – and the second series' harrowing courtroom storyline in particular deserves far more praise than it received on its initial broadcast. All three series look superb in 1080i50 HD, whether framed at 1.78:1 (series one and two) or 2.00:1 (series three). The amount of extras diminishes with each consecutive run.







The Nameless Order doesn't really do understated...

# Zhang Yimou's beautiful folly

It may be as dumb as they come, but this monster movie offers a feast for the eyes and ears

## → THE GREAT WALL

More than 2,300 years old and running some 13,000 miles in length at its prime, The Great Wall of China was – as everyone knows – built to protect the country from invasions by nomadic tribes and bloodthirsty alien space lizards. Wait... What?

That's right, the latest film from acclaimed Chinese filmmaker Zhang Yimou (whose previous work includes the likes of *Raise the Red Lantern*, *Hero* and *House of Flying Daggers*) stars Matt Damon and Pedro Pascal as William and Tovar, a pair of European mercenaries, hunting for the legendary 'black powder', who stumble across the Great Wall just as a swarm of ferocious space beasts wake from their 60-year slumber and make their latest attack. Captured by The Nameless Order who protect the wall, William develops a conscience and decides to pitch in and help repel the invaders. Meanwhile, his disappointed chum Tovar cooks up a plan with fellow prisoner Sir Ballard (Willem Dafoe) to take advantage of the distraction the assault offers so that they can steal the precious explosives from the Order.

As must surely be clear from the above, *The Great Wall* is as silly as they come. But silly doesn't equate to being bad, and there's a lot to enjoy about this big-budget bonanza.

Naturally, being a Zhang Yimou production, it looks sensational. Just seeing the

filmmaker bring the same level of visual flair and spectacle to what is essentially a big dumb Hollywood-style blockbuster is a treat in and of itself. Sure, the CG may look pretty phony, but that only adds to the film's goofy monster-movie charm.

About two per cent accurate in a purely historical sense, this \$150m B-movie is 100 per cent more entertaining than it sounds on paper – and you can guarantee that the world will never see its like ever again.

**Picture:** There are few movie-makers who use bold colours with as much confidence as Zhang Yimou, so it comes as no surprise that *The Great Wall* delivers plenty of Full HD eye candy. From the colour-coded armour of The Nameless Order's different units to the rainbow-hued interior of the pagoda during the final fight (Chapter 18), this 2.40:1 encode serves up some of the most vibrant imagery imaginable. Away from this, the picture exhibits strong contrast and textures.

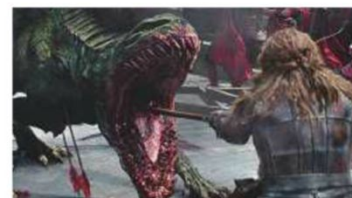
**Audio:** Arrows raining down from above as Matt Damon slides down a giant chain. Massive mechanical blades slicing horizontally across the soundstage. The rhythmic beating of giant drums. Yep, *The Great Wall*'s expansive yet well-constructed Dolby Atmos mix is a cracker.

**Extras:** More than a touch disappointing.

The eight behind-the-scenes vignettes are pure EPK fodder and none of them last much longer than three minutes. Also included is a collection of eight deleted/extended scenes.



ILM and Weta were among the many VFX firms that worked on the film



## HCC VERDICT

### The Great Wall

→ Universal Pictures → All-region BD → £25

**WE SAY:** An enjoyably goofy monster mash with sensational HD picture and sound.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★☆☆☆

**OVERALL:** ★★★★★





# Time to call off the Lynch mob?

Re-release demonstrates the huge difference a quality Blu-ray encode can make

## → MULHOLLAND DRIVE

Suffering from shock and amnesia following a car crash on Mulholland Drive, a dark-haired woman (Laura Harring) takes refuge in a nearby apartment. Calling herself Rita, she befriends Betty (Naomi Watts), an aspiring actress who has just moved to Hollywood. Together they set about finding out who Rita really is and why she has a bag full of cash.

Recently named the greatest film of the 21st century in a poll conducted by BBC Culture, David Lynch's haunting 2001 neo-noir was originally created as a 90-minute pilot for US TV network ABC (the former home of *Twin Peaks*). When the network execs rejected it, rather than simply ditching the material he had shot, Lynch set about reworking it into a feature-length film.

*Mulholland Drive* somehow emerged from this most unlikely of beginnings as one of Lynch's most fully satisfying movies. Despite the odd narrative non sequitur and Lynch's own refusal to discuss the film's meaning, it is actually possible to unpick the central mystery, providing you pay attention to what the director is showing you as opposed to what the characters are actually saying...

**Picture:** *Mulholland Drive* made its BD debut as part of the StudioCanal Collection back in 2010, on a disc suffering from both boosted contrast and digital filtering that removed both native film grain and fine detail. The Criterion Collection then had a crack at the film in the US in the guise of a 4K restoration supervised by Lynch. Sadly, while the positives of the restoration were plain to see (more accurate colours, improved detailing, stronger black levels and a more



film-like appearance), Region A fans felt they were undone by the actual encoding of the Criterion Blu-ray, which left it suffering with compression artefacts. This latest UK release is based on the same 4K source material as the Criterion disc, but this time around the encoding (courtesy of Arrow Films and Indicator stalwart David Mackenzie) appears rock-solid. The end result is nothing less than spectacular, and reason enough to replace any previous version you may have in your collection.

**Audio:** The film's DTS-HD MA 5.1 mix is just what you'd expect from Lynch, favouring brooding bass, intimate dialogue and Angelo Badalamenti's score over flashy dynamics. Still, you can't fault it for doing what it does so well.

**Extras:** A solid collection of extras includes a piece attempting to unravel the story, an archival *Making of...*, an appreciation of the film by French critics, a deleted scene and eight interviews.



Justin Theroux (top) plays a director being hassled by mobsters (bottom)

## HCC VERDICT

### Mulholland Drive

→ StudioCanal → Region B BD  
→ £25

**WE SAY:** PQ-wise, the definitive home release of David Lynch's mind-bending mystery.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

## Jackie

Entertainment One → Region B BD  
£25



This fascinating film is less a biography of Jackie Kennedy than an account of how she attempted to shape her late husband's legacy following his assassination and created the 'Camelot' myth about his presidency. Shot on 16mm film, intercut with actual archive footage and framed at 1.66:1, *Jackie* strives for a sense of aesthetic realism that is well served by the authentically grainy Blu-ray presentation. The DTS-HD MA 5.1 mix isn't particularly dynamic, but Mica Levi's score makes the most of the larger soundstage. A *Making of...* documentary and director's commentary are also included.



## Manchester by the Sea

StudioCanal → Region B BD  
£25



It's easy to see why Casey Affleck nabbed the Best Actor Oscar for his performance in this powerful family drama about an angry loner, haunted by a tragic past, pulled back home by his brother's death. Touching and unexpectedly funny, *Manchester by the Sea* is also one of the best-looking StudioCanal discs we've seen due to its well-resolved 1080p imagery. Chapter 8's noisy wake is the highlight of an otherwise understated DTS-HD MA 5.1 soundtrack. The Blu-ray also houses a commentary, a *Making of...* and three deleted scenes.



## Dead Men Don't Wear Plaid

Fabulous Films → Region B BD  
£15



Made between *The Jerk* and *The Man with Two Brains*, this early Steve Martin film isn't as fondly remembered as those two, but is still a lot of fun. This is especially true if you're a fan of 1940s film noir, as it uses clips from classic crime films, allowing Martin to share scenes with the likes of Humphrey Bogart and Ava Gardner. Licensed from Universal, the 1.85:1 HD master exhibits some signs of digital manipulation, but thankfully isn't slathered in DNR like some of that studio's other catalogue titles. A trailer is the disc's sole extra.



## The Blue Lagoon

Eureka Entertainment → Region B BD & R2 DVD → £15



Brooke Shields and Christopher Atkins star in this third bigscreen adaptation of Henry De Vere Stacpoole's novel of the same name. Slated upon its original release in 1980, this tale of two shipwrecked children growing up alone on a desert island is now viewed as little more than a kitsch classic, although this Blu-ray shows that it isn't without some genuine pleasures – not least the glorious tropical locations, which are beautifully rendered by the AVC 1.85:1 1080p encode. A fair array of bonus bits includes a pair of chat-tracks, an isolated score and a vintage promo featurette.







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Having a head that looks just like a crash helmet is no excuse for not wearing one



# The fast and furiously funny

Presumed dead action franchise returns to the screen with a welcome sense of humour



## → xXx: RETURN OF XANDER CAGE

When Augustus Gibbons (Samuel L. Jackson) is killed by a crashing satellite, the powers that be realise that there's only one man who can save the day: extreme-sportsman-turned-secret-agent Xander Cage (Vin Diesel). Trouble is, as anyone who saw *The Final Chapter: The Death of Xander Cage* short film that appeared on the *xXx: Director's Cut* DVD knows, Cage is dead... isn't he?

As it happens, no. It turns out Cage faked his death and has spent the past decade using his 'extreme' skills to steal satellite TV for his local bar in the Dominican Republic. Brought back into the fold by CIA Agent Jane Marke (Toni Collette), Cage puts together his own team of specialists and heads off to a remote island rave to capture a high-tech MacGuffin capable of taking control of any satellite from a rival group of thrill-seekers led by the deadly Xiang (Donnie Yen). But things aren't quite what they seem...

Released back in 2002, the first *xXx* was an inane attempt at melding Bond-style international espionage with extreme sports. It appeared that any attempt at turning the film into a franchise was cut short by 2005's *xXx: State of the Union*, an even more lacklustre affair that replaced Diesel with Ice Cube.

It's hard to believe that anyone has actually been clamouring for a new *xXx*

sequel, particularly as Diesel is the leading light in the *Fast & Furious* franchise, but that's what Hollywood has given us and surprisingly enough it's half-decent. The action set-pieces are ridiculously entertaining, the supporting cast more than makes up for charisma-vacuum Diesel's one-note performance and – best of all – the film refuses to take itself even remotely seriously.

Load it up as a double-bill with *The Great Wall* (p99) for a Friday night of big, dumb fun.

**Picture:** Shot digitally, *xXx: Return of Xander Cage* hits Blu-ray with a slightly inconsistent 2.40:1 Full HD presentation. While colour reproduction is very good and textures are well rendered, some shots appear excessively sharpened, giving them an aggressively digital appearance. Meanwhile, the artificial digital grain that swarms every frame during the night-time rave (Chapters 7 and 8) is just plain ugly.

**Audio:** While the relentless high-energy score threatens to overwhelm the mix at times, the Blu-ray's Dolby Atmos soundtrack suits the action perfectly, and cooks up copious panning sound thrills. It also makes some effective use of the height speakers to open out the soundfield even more – particularly during the film's explosive finale (Chapter 11).

**Extras:** Nothing too exciting here, just a quartet of generic behind-the-scenes featurettes and a not-very-funny gag reel.

### HCC VERDICT

#### *xXx: Return of Xander Cage*

→ Universal Pictures → All-region BD  
→ £25

**WE SAY:** A sensationally stupid return for the 'extreme' action franchise. But no more, please...

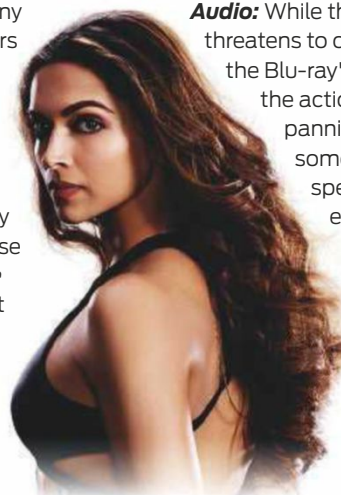
Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★





## The Entity

Eureka Entertainment → Region B BD & R2 DVD → £15



Purportedly based on true events, this 1982 fright flick occupies a space somewhere between *The Amityville*

*Horror* and *Poltergeist* with its tale of a mother of three (the excellent Barbara Hershey) repeatedly assaulted by an invisible supernatural force. More uncomfortable than scary, *The Entity* is at its best when exploring the psychological trauma suffered by Hershey's character; an outlandish final act involving a team of paranormal investigators is much less satisfying. In addition to clean 2.40:1 Full HD visuals and brash DTS-HD MA 5.1 sonics, the Blu-ray also includes a trailer.



## Caltiki: The Immortal Monster

Arrow Video → Region B BD & R2 DVD £25



While only being credited as 'Director of Photography, Special Effects', this enjoyable Italian mash-up of

*The Quatermass Xperiment* and *The Blob* actually marks the feature directing debut of Mario Bava. This BD release offers up an impeccable new 2K restoration of the film framed at 1.66:1, plus an unmasked 'full aperture' presentation that reveals more of the special effects photography. Other extras include a pair of commentaries by genre experts and a vintage French 'photocomic' (the latter as BD-ROM content).



## The Hunger: Premium Collection

Warner Bros. → All-region BD & R2 DVD £15 (HMV Exclusive)



Tony Scott's stylish debut stars Catherine Deneuve as Miriam Blaylock, an ancient vampire living in

Manhattan. When her current lover, John (David Bowie), suddenly starts to age rapidly, Miriam sets about replacing him with a scientist (Susan Sarandon) intrigued by John's condition. Given the frequently under-lit nature of the film's photography, this Blu-ray encode should be commended for delivering such an authentic-looking digital image. As well as four art cards, this Premium Collection platter sports a chat-track and trailer.



## The Void

Signature Entertainment All-region BD → £20



A deliberate throwback to the horror films of the 1980s, this low-budget Canadian flick doesn't have anything

original to say for itself (it's essentially *Assault on Precinct 13* as told by Clive Barker and H.P. Lovecraft), but there's still a lot here to enjoy – especially for those fright fans who still wax nostalgic for the days of gruesome physical effects. And while Signature often favours barebones releases, it's put together an excellent BD package here – not only does *The Void* look and sound great, it's supported by fascinating extras including a commentary and a half-hour *Making of*.



# Argento's hi-def do-over is a hit

From the new 4K restoration to its wealth of extras, this Blu-ray is... phenomenal

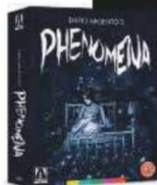
## → PHENOMENA: LIMITED EDITION

Sleepwalking during her first night at a boarding school in the 'Swiss Transylvania', American student Jennifer Corvino (Jennifer Connelly) witnesses the brutal murder of another girl. Fleeing the scene, she eventually ends up at the home of local forensic entomologist John McGregor (Donald Pleasance) and his chimpanzee attendant, Inga. Learning of her unique ability to telepathically communicate with insects, John asks Jennifer to use her talent to help him catch the psychopath who has been butchering girls at the school.

As this brief synopsis makes clear, Dario Argento's *Phenomena* (1985) is completely bonkers. It should also be clear that the film suffers from a surfeit of ideas (even more than are mentioned above), none of which are really fully developed. But the utter lunacy of the story is brought to the screen with enough of the filmmaker's stylistic flourishes and sufficient moments of outright horror to keep you entertained, which is a lot more than you can say for Argento's more recent movies.

**Picture:** *Phenomena* has been restored in 4K by Arrow Video for this Blu-ray release and is presented in three different versions across three discs. These take the form of the 116-minute cut released in Italy, a 110-minute re-edit prepared for the international market, and the 83-minute hatchet job performed by its US distributor (released as *Creepers*).

While some additional restored 2K sources were used in the two shorter cuts, the image quality across



the trio is largely identical. Framed at 1.66:1, the 1080p BD encode is a marvel; showing an enormous uptick in colour reproduction and fine details over Arrow's original 2011 HD release. There's also none of that disc's

distracting digital noise to be seen, either.

**Audio:** In addition to LPCM stereo and DTS-HD MA 5.1 Italian language tracks, Arrow has overseen the production of new stereo and 5.1 'hybrid' English tracks for the 116-minute cut of the film. Primarily based around the English production audio, with an Italian dub used for the additional footage, there are some unavoidable shifts in quality between the sources, but it still shows surprising cohesion and consistently.

**Extras:** A cornucopia of bonus goodies includes a commentary, a video essay exploring the three different cuts, a new 120-minute retrospective doc, a 60-page booklet and the CD soundtrack.



As well as regular collaborators Goblin, *Phenomena*'s soundtrack also features tracks by Iron Maiden and Motörhead

## HCC VERDICT

### Phenomena: Limited Edition

→ Arrow Video → Region B BD → £40

**WE SAY:** The film isn't Argento's best, but this extras-laden hi-def release is a must-own for his fans.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★



# Young master comes of age

Raise a drink to Masters of Cinema's remastered action-comedy masterpiece

## → DRUNKEN MASTER

Following the box office success of 1978's *Snake in the Eagle's Shadow*, director Yuen Woo-ping and star Jackie Chan immediately set about producing a second film together. And while it followed a very similar formula, *Drunken Master* (released later the same year) proved to be an even more accomplished blend of action and comedy.

Taking the exploits of real-life martial arts master and folk hero Wong Fei-hung as its starting point, the film casts Chan as a younger, more irresponsible version of the character. After embarrassing his father, Wong is punished by being sent away to study martial arts under the notorious Beggar So (Yuen Siu-tien), master of the 'Eight Drunken Gods' kung fu techniques. But can even Wong's newly acquired skills save the day when his father is targeted by a deadly assassin (Hwang Jang Lee)?

Taking almost three times as much money at the domestic box office as its record-breaking predecessor, *Drunken Master* established Yuen Woo-ping as one of the world's leading action directors and catapulted Chan to superstardom. It's not hard to see why, either. Even today, nearly 40 years after it first hit screens, *Drunken Master* remains as fresh and funny as ever; the outrageous physicality of the comedy and breathtaking staging of the action making it an irresistible treat for lovers of old-school kung fu cinema.

**Picture:** Based on a new 4K digital restoration, this Blu-ray is a real knockout. There are a few source-related issues along the way (not least the odd out-of-focus shot), but these are hardly



The popular 'Angry Seagull' kung fu style...

unexpected in Hong Kong cinema of the time. What really stands out is the sharpness and clarity of the image, with tight detailing adding a sense of volume to a richly-coloured 1080p presentation.

**Audio:** Licensing issues have prevented the use of the original English dub, which many fans on these shores grew up with. Masters of Cinema has still put together an impressive set of LPCM mono soundtrack options, though. As well as the Cantonese-language track and a newer English dub, there's a Mandarin version (produced for a shorter cut of the film, so it reverts to English for the missing bits). There are separate subtitles for the Cantonese and Mandarin soundtracks, and the disc also recreates the original Hong Kong theatrical subtitles, complete with all spelling and grammatical errors.

**Extras:** Worthy extras include a commentary, a recent interview with Chan, an appreciation by Gareth 'The Raid' Evans and a deleted scene.



## HCC VERDICT

### Drunken Master

→ Eureka – Masters of Cinema  
→ All-region BD & RO DVD → £20

**WE SAY:** This old-school kung fu comedy still hits the spot and now looks even better than ever.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★

## The Lady from Shanghai

Indicator → All-region BD & R2 DVD → £23



Outside of *Citizen Kane*, Orson Welles' career as a director is basically one long question of what could have been. Like so many other films he made, this 1947 film noir only hints at the

movie Welles set out to make, having been subject to myriad reshoots and re-edits on the orders of studio bosses. While the movie itself is uneven, this Blu-ray release is a top-notch affair from start to finish, serving up impeccable 1.37:1 1080p visuals (based on a 4K restoration of the original nitrate negative) alongside plenty of high-quality extras, including a commentary and a vintage interview with Rita Hayworth.



## Melody

StudioCanal → Region B BD £23



An acknowledged influence on Wes Anderson's *Moonlight Kingdom*, Alan Parker's 1971 screenwriting

debut (also known by the title *S.W.A.L.K.*) is the quirky tale of two young children who fall in love and decide that they want to get married, right now. Making its hi-def debut, *Melody* arrives on Blu-ray with a 1.85:1 Full HD encode that retains an organic, film-like appearance throughout. The dual-mono LPCM audio is only hampered by the limitations of the recordings of pop songs that litter the soundtrack. Four new interviews and a photo gallery are included.



## The Informer

BFI → All-region BD & RO DVD £20



The BFI has gone to town with this Blu-ray edition of the gripping 1929 thriller where a rebel in the newly

independent Ireland informs on a friend in a fit of jealousy and is then hunted down by his former colleagues. Impressive visuals come from a restored and tinted presentation of the silent film based on a 4K scan. Fascinating extras include a chat with composer Garth Knox, a look at the restoration process, eight archival newsreels and a 34-page booklet. There's even an alternate sound version, with (plummy-accented) dialogue added to the second half of the film.





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'I told you, this is my spear.  
Get your own!'



## Little joy here for joystick junkies

The videogames may be great, but this big-budget movie adaptation isn't



Michael Fassbender is back in cinemas in October in crime drama *The Snowman*

### → ASSASSIN'S CREED

While Hollywood doesn't have a great record of making films based on videogames, we approached *Assassin's Creed* with optimism, as the games have a clever core concept, evocative storylines and consistently cinematic graphics. Sadly, though, the script here hurtles along too fast and too blandly to develop characters, story, concept or frankly anything to any meaningful degree. Style is mistaken for substance, and there's none of the balance between mystery, exploration, combat and tension that makes the games work. Nice production design, though.

**Picture:** The UHD BD's transfer is a bit of a mish mash, despite apparently being derived from a genuine 4K digital master. It's at its best in resolution terms with sequences in the stylishly-lit offices of the modern-day Templar building, delivering pristine levels of detail that go comfortably beyond those of the standard Blu-ray. Yet most other scenes look much less crisp, particularly during the genetic memory playback sequences that form the film's action backbone. These scenes also sometimes suffer with noise.

This striking sharpness inconsistency is likely down to the use of 2K effects, the extreme use of swooping cameras and swirling smoke and

dust clouds, and the varying grade of cameras used in production.

The disc's high dynamic range is more rewarding. Almost every shot appears punchier and more dynamic than on the normal Blu-ray. Dark scenes have a much wider contrast range. Colours are more saturated, too, especially yellow tones.

**Audio:** The film's Atmos soundmix (exclusive to the UHD BD) is excellent (and loud). It works harder than most to keep you immersed in a full sonic environment, with rear and height channels used extensively for both ambient and directional effects. The scale of the soundstage sometimes feels almost too impressive for the turgid onscreen action.

**Extras:** All extras are found on the 1080p disc, and include a 41-minute *Making of...*; the 20-minute *Conversations with Justin Kurzel* where the director covers editing, special effects and more; deleted scenes; a photo gallery; and trailers. Not bad.

Waiting around with time to kill...



### HCC VERDICT

#### Assassin's Creed

→ 20th Century Fox → Ultra HD BD & Region A/B BD → £34

**WE SAY:** A disappointingly patchy transfer of yet another lame videogame/movie conversion.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★





# Fast fans lose out on lossless

Universal's biggest film franchise stalls when asked to race away in 4K

## → FAST & FURIOUS 6/ FAST & FURIOUS 7

We're not privy to the reasoning behind Universal's decision to release two *Fast & Furious* movies on 4K Blu-ray, and not the other five – collectors will be hoping the rest screech around the corner in due course.

Still, it's picked a good pair to kick things off. The fifth instalment remains the franchise's crowning glory, but these two sequels are rock-solid action spectacles, with a surfeit of outlandish set-pieces, scene-stealing villains (played by Luke Evans and Jason Statham) and, at the heart of it all, the continued plotline about Dom Toretto (Vin Diesel) trying to keep his 'family' together. *F&F 7* also features a surprisingly poignant send-off for its late cast member Paul Walker.

**Picture:** Both movies sport stable H.265 encodes, apparently hewn from 2K digital intermediates. In car terms, they're more Ford Fiesta ST than Focus RS – there's nothing here that you'd obviously choose to demo to the 4K HDR curious. They're better than the previous 1080p releases, offering a touch more sharpness and contrast, plus splashes of HDR brilliance, but lack the sheer clarity and dynamism of the best UHD platters. Worth upgrading for? Maybe, but...

**Audio:** Universal has made a car-crash of this *F&F* 4K debut, bizarrely choosing to piggy-back new DTS:X soundmixes atop DTS-HD HR streams, rather than lossless DTS-HD Master Audio.

Those with compatible systems will no doubt appreciate the extra dimensionality; those without



### HCC VERDICT

#### Fast & Furious 6 / Fast & Furious 7

→ Universal Pictures → Ultra HD BD & All-region BD → £40 each

**WE SAY:** A frustrating beginning to the franchise's 4K adventures

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

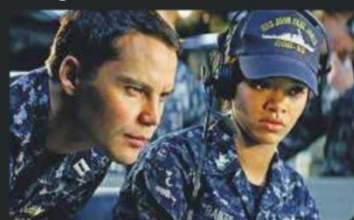
**OVERALL:** ★★★★★

have to make do with technically inferior audio mixes, regardless of whether the difference is readily discernible. Even worse, the extended cut of *F&F 6* features a regular last-century DTS 5.1 mix; the extended version of *F&F 7* offers DTS-HD HR 7.1. Confused? We are.

**Extras:** Credit due to Universal for porting Justin Lin's worthwhile director's commentary for *F&F 6* onto the UHD platter (all the other extras – the *Making of...* doc, deleted scenes, ogling at cars – are found on the 1080p disc, as well as DTS-HD MA...). With the follow-up flick, there is no commentary, so the 4K disc is barebones. Best of the 1080p bunch is director James Wan's *Talking Fast* analysis.

## Battleship

Universal Pictures → Ultra HD BD & All-region BD → £40



This ridiculous 2012 boardgame adaptation (seriously) starring Liam Neeson and Rhianna gets a soundtrack overhaul on 4K, upgrading its already excellent DTS-HD MA 5.1 mix

to a head-spinning DTS:X iteration that fits the alien invasion action perfectly. Image quality steps up a notch, too, finding additional clarity and colour impact in the 2.40:1 visuals (with no obvious sign of any digital smoothing), resulting in a boost to overall image depth. This is an obvious upgrade if you can stomach the movie's silliness.



## Sully: Miracle on the Hudson

Warner Bros. → Ultra HD BD & All-region BD → £35



Clint Eastwood's engrossing true-life drama enjoys a smooth landing on Ultra HD

Blu-ray. Derived from a 6.5K source and 4K digital intermediate, this H.265-encoded platter sees a noticeable increase in sharpness and fine object detail over the (very impressive) 1080p incarnation reviewed last issue. HDR grading isn't especially showy, but crisper highlights add a greater sense of volume to long shots of the NYC skyline. When it comes to audio, this 4K Blu-ray replicates the excellent Atmos mix that appears on the Full HD disc.



## Allied

Universal Pictures → Ultra HD BD & All-region BD → £40



Brad Pitt seems to live permanently in a WW2 costume these days – here he stars as an Allied spy whose wife (Marion Cotillard) may or may not be a Nazi. An agreeable, old-fashioned thriller, but there's nothing old-fashioned about this UHD disc. Image quality is excellent, subtly richer in colour and luminance range, and much better defined. As with *Sully* (left), the benefits of higher-than-4K source material is readily apparent; it's a more detailed, pleasing image. The soundmix across both discs is DTS-HD Master Audio; all extras are on the 1080p platter.



Collecting...

# Movie musicals

As the award-winning *La La Land* makes its bow on Blu-ray, **Team HCC** sings the praises of ten other song-and-dance spectaculars that deserve a place in your disc collection...

## SINGIN' IN THE RAIN

Firmly entrenched today as a musical masterpiece, it's hard to believe that *Singin' in the Rain* was originally conceived as little more than a way for MGM to re-use a bunch of songs from some of its earlier musicals. However, thanks to writers Betty Comden and Adolph Green we ended up with one of the sharpest and funniest films ever about filmmaking. Couple that with Gene Kelly and Stanley Donen's bravura choreography and you have non-stop entertainment.

**Get it:** Warner's blandly-titled *Musicals: 4-Film Collection* Blu-ray partners a gorgeous 4K restoration of *Singin' in the Rain* with *Kiss Me Kate 3D*, *The Band Wagon* and *Calamity Jane*. Best of all, this region-free four-disc set can be imported from the US for around £25.



## CABARET

Set against the backdrop of the Weimar Republic and the growth of the Nazi Party, *Cabaret* invites audiences on a trip to Berlin's decadent Kit Kat Klub. Directed and choreographed by the legendary Bob Fosse, the result is an intoxicating combination of sex and style with a jet-black heart of despair and cynicism. Meanwhile, Liza Minnelli and Joel Grey have never been better.

**Get it:** As *Cabaret* has yet to see the light of day on BD in the UK, fans should import the excellent region-free US Blu-ray digibook.



## LITTLE SHOP OF HORRORS

This musical update of Roger Corman's 1960 low-budget comedy horror stars Rick Moranis as the put-upon employee of a 'Skid Row' flower shop who chances across an exotic plant with a taste for human blood.

**Get it:** Last year's HMV-exclusive Premium Collection Blu-ray not only offers up some great extras and strong AV credentials, but boasts two versions of the film – with the Director's Cut including the original more spectacular, if downbeat, finale.



## WEST SIDE STORY

Shakespeare's *Romeo & Juliet* is transferred to the Manhattan slums, with the warring Capulet and Montague families replaced by two street gangs – the white American Jets and the Puerto Rican Sharks. Add Leonard Bernstein's score, Stephen Sondheim's lyrics and Jerome Robbins' dance moves and you have an all-time genre classic.

**Get it:** Fox's UK Blu-ray looks mainly great, but has some quirky technical issues on occasion. Importers can pick up a Region A edition with accompanying book.



## THE UMBRELLAS OF CHERBOURG

Catherine Deneuve and Nino Castelnuovo star as the young lovers torn from one another in Jack Demy's 1964 corker. Owing as much to British 'kitchen sink' dramas as it does to Hollywood musicals, ...*Cherbourg* is particularly notable for taking an opera-like approach and having all its dialogue sung.

**Get it:** StudioCanal's sumptuous 50th Anniversary Edition Blu-ray features a striking 2K restoration, a choice of two audio mixes and plenty of worthwhile extras.





## MOULIN ROUGE!

Baz Luhrmann's 2001 jukebox musical is the very definition of cinematic excess, where only a hyper-kinetic visual style can compete with the overwrought melodrama of its central love story. And where else are you ever going to see Jim Broadbent rapping over the chorus to Nirvana's *Smells Like Teen Spirit*?

**Get it:** Released back in 2010, Fox's *Moulin Rouge!* Blu-ray still delivers a top-tier home cinema experience thanks to rich 1080p visuals and expansive DTS-HD MA 5.1 sonics. That said, we reckon this is ripe for 4K Blu-ray treatment.



## GREASE

John Travolta and Olivia Newton-John star as the world's oldest teenagers in this energetic film about a nice young girl who gives in to peer pressure and squeezes into a pair of skin-tight trousers in order to win the high school greaser of her dreams. More than just the cultural touchstone it is regarded as today, *Grease* is surprisingly knowing and edgier than you might remember. And the songs are great.

**Get it:** Paramount's Blu-ray is the best presentation of the film right now, but picture and sound could both still be improved.



## BEAUTY AND THE BEAST

The first animated movie ever to be nominated for the Best Picture Academy Award, Disney's magical musical update of the classic French fairy tale cemented the studio's renaissance following the success of *The Little Mermaid*.

**Get it:** Disney's BD release includes two cuts of the film – both of which look and sound absolutely superb. Just make sure you grab the original 'Diamond Edition' incarnation if you want all of the bonus features!



## THE WIZARD OF OZ

Victor Fleming's Technicolor musical-fantasy may be gearing up to celebrate its 80th birthday in a couple of years, but the film remains a sprightly piece of spectacle that feels unique. Loved by pretty much everyone who has ever seen it, *The Wizard of Oz* is the definition of very movie magic.

**Get it:** The 2013 3D conversion is surprisingly effective and matches the 2D platter for image quality. However, die-hard fans will want to own the US boxset that was packed with collectible goodies.

## THE ROCKY HORROR PICTURE SHOW

The ultimate midnight movie, Richard O'Brien's love letter to 1950s' B-movies serves up a heady cocktail of sci-fi clichés, rock 'n' roll rebellion and kinky costumes. Along the way it gave Tim Curry the role of a lifetime as the self-styled 'Sweet Transvestite' Dr. Frank N. Furter

and gave birth to a world of audience participation that remains unmatched by any other movie.

**Get it:** The Blu-ray sports pleasingly remastered visuals, a remixed DTS-HD MA 7.1 soundtrack and some fun extras – including a commentary, outtakes, deleted musical numbers and a Picture-in-Picture 'Shadowcast' viewing mode.



Have we missed one of your favourite movie musicals?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)



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Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

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## TOP 10 Televisions

**Sony KD-65ZD9** → £3,500

Sony finished 2016 on a high with this full-array LED Bravia (with advanced local dimming tech) that claims a 1,800-nit peak brightness. Cinematic, sublime pictures – and Dolby Vision support is a firmware update away. *HCC #267*

**Panasonic TX-65DX902** → £2,300 ★★★★★

This HDR-capable 65-incher wears its Ultra HD Premium badge with pride, and employs a full-array backlight to take control of its impressive luminance talents. Imagery is excellent. *HCC #259*

**LG OLED65E6** → £3,500 ★★★★★

The sweetspot in LG's OLED range below the Signature G6 – most will consider the tweaked bezel design and inferior sonics of this TV worth settling for considering the price. *HCC #265*

**Philips 55POS901F** → £2,800 ★★★★★

Philips enters the OLED arena with a screen that stands out courtesy of its alluring performance and Ambilight. But it lacks the smart skills and 3D playback of some rivals. *HCC #270*

**Sony KD-55XE9005** → £1,700 ★★★★★

Sony brings direct LED illumination to the 55in arena. Still not an absolute HDR knockout (local dimming isn't foolproof) but generally this is a good-looking set for the AV everyman. *HCC #272*

**Samsung UE55KS7000** → £1,000 ★★★★★

Straddling the world between genuine budget sets and more premium competitors, this 55-incher is perhaps Samsung's most appealing model. Impressive with both SDR and HDR. *HCC #265*

**Sony KD-55XE9305** → £2,400 ★★★★★

This Android 4K LED model hits the highs when it comes to brightness and colour impact, leading to some stellar HDR visuals. Yet the edge LED lighting shows some flaws. *HCC #271*

**Panasonic TX-50DX750** → £800 ★★★★★

Mid-range 4K/HDR LED TV. Not as impactful as its DX902 stablemate when it comes to pictures, but a neat design, fun UI and appealing screen size will win it plenty of fans. *HCC #260*

**Hisense 75M7900** → £2,500 ★★★★★

A massive 75in LED set at a bargain price. The appeal is its largescreen 4K playback: a lack of innate brightness and colour subtlety hampers HDR performance. *#267*

**Hitachi 49GHT69U** → £500 ★★★★★

49in 4K screen that could appeal to those on tight budgets. This £500 set offers a smattering of catchup, decent connectivity and a generally enjoyable image. No HDR support, though. *HCC #260*

## TECH INFO: TELEVISIONS



**4K is here to stay:** The TV market is currently dominated by LED-lit LCD screens – plasma is long gone – but OLED is gaining a share as more brands adopt the self-emissive screen technology. 4K/Ultra HD models are now commonplace on displays above the 40in mark, which is where you should be looking for home cinema thrills. Curved models were once achingly trendy, but we're seeing a shift away from such design flourishes. Look out for sets offering support for HDR content, which is part of the UHD Blu-ray specification.



**Active or Passive:** At the beginning of the 3D era, most TVs featured the active system that uses powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. 3D playback is increasingly being dropped by brands (including Samsung and Philips). Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on. The tech is still being worked on, though...

## TOP 5 Blu-ray movies

**Rogue One: A Star Wars Story**

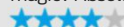
This stonking new addition to the *Star Wars* universe is a Force to be reckoned with on Blu-ray thanks to its electrifying 2.40:1 1080p visuals and reference-quality DTS-HD MA 7.1 sonics.

**Fantastic Beasts and Where to Find Them [Ultra HD Blu-ray]**

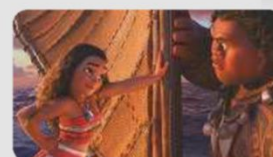
Warner's lively Harry Potter spin-off conjures up some of the most spellbinding 4K HDR imagery around, accompanied by a playful Atmos audio mix.

**Doctor Strange 3D**

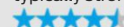
Marvel's latest superhero film takes a trip to the weirder side of the MCU and in doing so conjures up an eye-popping stereoscopic encode accompanied by thrilling DTS-HD MA 7.1 sonics. Could it be magic? Absolutely!

**Deepwater Horizon [Ultra HD Blu-ray]**

Tense, explosive 'docbuster' that reunites Mark Wahlberg with *Lone Survivor* director Peter Berg. Lionsgate's 4K disc offers a breathtaking Atmos soundtrack and flaming HDR visuals.

**Moana**

Disney's seafaring adventure makes an almighty splash on Blu-ray with richly saturated 2.40:1 1080p imagery and bass-rich DTS-HD MA 7.1 soundtrack. AV prowess is backed up by a typically strong set of extras.





# TOP 10 Blu-ray & Ultra HD Blu-ray players

- 

**Oppo UDP-203** → £650 ★★★★★  
 Oppo refreshes its player hardware with a superb universal design with Ultra HD playback (including Dolby Vision via firmware later this year). Packed with user adjustments and connectivity. No apps or Darbee Vision, though. *HCC #269*
- 

**Panasonic DMP-UB900** → £600 ★★★★★  
 The Ultra HD Blu-ray format got an inspiring debut in Panasonic's multi-talented deck that offers a sterling picture performance and 4K-enabled VOD apps. *HCC #259*
- 

**Pioneer BDP-LX88** → £1,100 ★★★★★  
 The Japanese corp returns to the disc-playing high-end with a universal deck that weighs more than your AVR and drips with user tweaks and processing features. Stonking performer. *HCC #246*
- 

**Panasonic DMP-UB700** → £300 ★★★★★  
 Shorn of some of the audiophile niceties of the UB900 (including multichannel analogue outputs), but still a safe pair of hands with your 4K BDs. And at a bargain price. *HCC #270*
- 

**Sony UHP-H1** → £400 ★★★★★  
 Its last top-line BD deck before Sony embraces UHD, this player pleases with wide-ranging audio support (including DVD-A!), exquisite construction and slick performance. *HCC #261*
- 

**Arcam FMJ UDP411** → £1,200 ★★★★★  
 Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. *HCC #244*
- 

**Panasonic DMP-UB300** → £240 ★★★★★  
 Great 4K imagery from this bargain deck, but you might prefer to up your budget for the UB700 – no split HDMI, optical/coaxial or Wi-Fi connections here. Half-size design. *HCC #272*
- 

**Samsung UBD-K8500** → £350 ★★★★★  
 Ultra HD Blu-ray player that'll find fans courtesy of its sensible price point, connected smarts and eye-catching visuals. Build quality is a little uninspiring. *HCC #260*
- 

**LG BP556** → £85 ★★★★★  
 LG's top-of-the-line(!) disc-spinner is actually a budget offering. Design is a bit garish, but the addition of multiroom streaming, some smart apps and file playback sweeten the deal. *HCC #266*
- 

**Samsung BD-J7500** → £150 ★★★★★  
 This well-priced spinner offers twin HDMI outputs and multichannel phono audio for flexible system hookup, an appealing design, smart features and solid AV chops. *HCC #247*

## TECH INFO: BLU-RAY PLAYERS

**Matching your deck to your AV receiver:** Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D/4K/HDR output signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

**What about consoles?:** Both Sony's PlayStation and Microsoft's Xbox platforms support Blu-ray playback – the latter's Xbox One S will even spin your Ultra HD Blu-ray platters. Using a console can be an affordable alternative to a deck, particularly when gaming and media playing talents are taken into account, but the joy pad user experience can feel a little odd and you'll need to make sure no one else is playing *Grand Theft Auto* first.



## DEMO DELIGHT

**Billy Lynn's Long Halftime Walk:** Ang Lee's post-Gulf War drama isn't exactly a cracking film, but as the world's first 60fps 4K Blu-ray title it gives you a chance to sample high-frame-rate home cinema. Will you like it? That's not for us to say...

OPPO<sup>®</sup>  
 Blu-ray

At the top of everyone's shortlist



## TOP 10 Projectors

**Sony VPL-VW550ES** → £9,000

★★★★★

For its top-range domestic SXRD beamer, Sony introduces an HDR Contrast tool that proves useful in fine-tuning its UHD Blu-ray performance. Excels with standard BD content and setup flexibility, too. *HCC #269*

**JVC DLA-X7000** → £5,700 ★★★★★

With contrast and brightness improvements over the more affordable DLA-X5000, this is a great bigscreen option, although its SDR performance impresses more than HDR. *HCC #259*

**Sony VPL-HW45ES** → £1,850 ★★★★★

The most affordable model in Sony's home cinema range, the Full HD-resolution 45ES features excellent light management for a routinely cinematic image. Great value. *HCC #263*

**Epson EH-TW6700** → £1,300 ★★★★★

HDR and 4K scaling are off the menu, leaving this mid-range model to concentrate on cinematic HD images. Bright, crisp performance, plenty of tweaks, but no 12V trigger. *HCC #271*



NEW ENTRY

**Acer V9800** → £4,000 ★★★★★

This 4K DLP offers wonderful clarity and bright HDR peaks via its 2,200 Lumens lamp. Black levels aren't the best, but the price here feels about right for a debut technology. *HCC #272*

**ViewSonic Pro7827HD** → £600 ★★★★★

Pictures impress from this single-chip DLP budget option that carries a third HDMI input designed for smart sticks. Includes ISF calibration. 3D spex are an optional extra. *HCC #261*

**Epson EH-TW9300** → £3,000 ★★★★★

Epson brings HDR playback and 4K up-rezzing to an agreeable price tag. Colourful and well-contrasted visuals, but don't expect an HDR knockout. *HCC #266*

**Epson EH-TW7300** → £2,200 ★★★★★

Similar performance traits to its bigger brother (above), but with reductions in max brightness (and claimed contrast). Currently the most affordable HDR model around. *HCC #269*

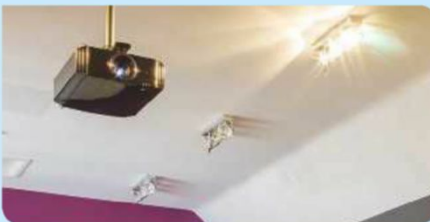
**Optoma GT5000** → £1,000 ★★★★★

Ultra short-throw model with healthy brightness that makes sense for regular living rooms where a traditional install isn't possible. Casts Full HD images from just 30cm. *HCC #261*

**BenQ W2000** → £800 ★★★★★

Average black-level performance limits this model's all-round appeal, but elsewhere this Full HD DLP budget PJ catches the eye with its calibration options and detailed visuals. *HCC #257*

## TECH INFO: PROJECTORS



**Installation:** Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

**Throw distance:** Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

**Throw ratio:** Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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## TOP 10 Speakers



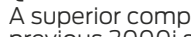
### 1 Monitor Audio Gold 300AV → £7,150



MA revamps its Gold Series and we pay serious attention. This big-ticket package excels across the frequency range, offers exquisite design and packs setup flexibility via the dipole/monopole FX surrounds. *HCC #251*



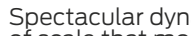
### 2 Q Acoustics 3000 5.1 Cinema Pack → £700



A superior compact package with driver improvements over the previous 2000i series. The two-way cabinets and dual-driver sub combine to offer impressive audio for the money. *HCC #247*



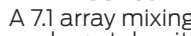
### 3 XTZ Cinema Series 5.1.4 → £3,700



Spectacular dynamics, gut-thumping bass and a sense of scale that most systems at this price only dream of – XTZ's 3D audio-ready setup is an easy recommendation. *HCC #259*



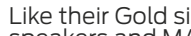
### 4 KEF R Series 7.1 → £6,500



A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*



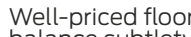
### 5 Monitor Audio Bronze B5 AV → £1,500



Like their Gold siblings, these feature switchable surround speakers and MA's C-CAM drivers. Smaller in stature and output, but eminently more affordable. *HCC #254*



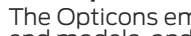
### 6 ELAC Debut 5.1.2 → £1,950



Well-priced floorstanding Atmos system that manages to balance subtlety and precision with an exciting delivery. Subwoofer includes app-based room EQ. *HCC #262*



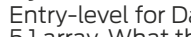
### 7 DALI Opticon 5.1 → £3,200



The Opticons employ driver designs created for DALI's higher-end models, and showcase a talent for both involving music presentation and high-octane home cinema. *HCC #260*



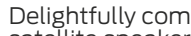
### 8 Dynaudio Emit 5.1 → £3,200



Entry-level for Danish brand Dynaudio – still a hefty chunk for a 5.1 array. What the money gets you is a wonderfully natural and cohesive soundstage and stonking build quality. *HCC #263*



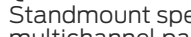
### 9 Wharfedale DX-ISE → £400



Delightfully compact 5.1 package (although with two-way satellite speakers) that blends a tidy design with crisp surround sonics at a very tempting price. *HCC #267*

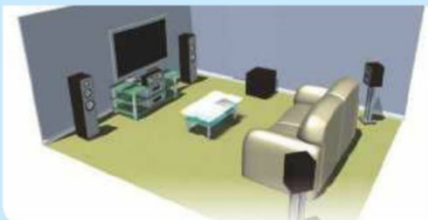


### 10 Quad S Series 5.0 → £1,800



Standmount speakers with ribbon tweeters join together in a multichannel pack with a smooth, detailed and unfatiguing sound. Neat design and build. Just add a subwoofer. *HCC #271*

## TECH INFO: SPEAKERS



**Centre speaker:** Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

**Front speakers:** Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

**Subwoofer:** Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

**Surrounds:** Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

## DEMO DELIGHT

**Deepwater Horizon:** Based on the real-life oil rig disaster in 2010, this good-looking thriller starring Mark Wahlberg features a terrifying Dolby Atmos soundmix on both its Full HD and 4K Blu-ray releases. Placing you right in the centre of the unfolding chaos through precise effects placement and fabulous dynamics, it's, er, very slick...

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Photo courtesy of UK Home Cinemas

## TOP 10 AV Receivers/AV Processors

**Anthem MRX 1120** → £4,000

★★★★★

Combining Anthem's superb ARC room EQ system with 11-channel amplification makes this an essential consideration for full-spec Atmos setups. Muscular, precise sound. No networking skills, though. *HCC #265*

**Arcam AVR850** → £4,500 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos (and future DTS:X) support with talented Dirac Live Room EQ. 11-channel pre-outs for full-fat setups. *HCC #257*

**Denon AVR-X4300H** → £1,300 ★★★★★

Nine-channel receiver with HEOS multiroom integration and 11-channel processing (Atmos, DTS:X, plus Auro-3D as a paid-for upgrade). Great, detailed sound and foolproof usability. *HCC #267*

**Trinnov Audio Altitude32** → £27,000 ★★★★★

Capable of outputting 32 discrete channels and mapping Dolby Atmos, DTS:X and Auro-3D sources to any setup via advanced EQ. Only premium cinema owners need apply, though. *HCC #262*

**Denon AVR-X2300W** → £500 ★★★★★

This almost entry-level Denon offers excellent value for money, with a well-balanced sound signature and bulging feature set. Seven-channel design won't suit all setups. *HCC #263*

**Yamaha RX-A3060** → £2,000 ★★★★★

New nine-channel flagship from Yamaha features excellent room EQ implementation, well-judged DSP modes, and an even-handed, effortless sound. *HCC #264*

**Denon AVR-X6300H** → £2,000 ★★★★★

Denon bundles 11 channels of power, plus cutting-edge features, into this crisp, articulate AV receiver. Ideal partner for 7.1.4 setups, but not quite the muscle-monster you might expect. *HCC #269*

**Marantz NR1607** → £600 ★★★★★

The latest slim-line AVR from Marantz continues the brand's good work when it comes to space-saving sonics. Seven-channel amp with object-based audio. Punchy, lively sound. *HCC #266*

**Pioneer VSX-1131** → £550 ★★★★★

Seven-channel model with Atmos and DTS:X support that features an overhauled remote control and UI to improve usability. Bass-rich, energetic sound. *HCC #265*

**Yamaha RX-A860** → £900 ★★★★★

Only seven channels and hindered by only three HDCP 2.2-enabled HDMI inputs, but beyond that this flexible MusicCast AVR proves a great listen, with plenty of DSP toys. *HCC #270*

## TECH INFO: AV RECEIVERS



**Tackling new heights:** A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and DTS:X. Most AVR brands have pledged support for the latter; software isn't as widespread as Atmos.

**How much power?:** Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

## TOP 5 Bonus features

**Sam Peckinpah: Man of Iron – The Director's Cut**

Arrow Video bolsters its *Bring Me the Head of Alfredo Garcia*: Limited Edition Blu-ray with over 10 hours of extended interviews shot for Paul Joyce's fascinating TV doc about the film's director.

★★★★★

**Star Wars: The Force Awakens commentary**

Director JJ Abrams provides a trivia-packed chat track on the Collector's Edition Blu-ray release of Disney's box office killer. Indispensable for *Star Wars* geeks.

★★★★★

**Napoleon: Triptych**

On a package that also features a remarkable five-hour commentary track, the option to watch the movie's three-panel footage on three displays (via three discs) is the icing on the cake.

★★★★★

**The Giant's Dream**

Superior hour-long documentary on *The Iron Giant*'s Signature Edition Blu-ray that is refreshingly honest about the toon's production and its now-famous box office failure. Brilliant stuff.

★★★★★

**You're so cool, Brewster!**

Fan-pleasing 147-minute retrospective *Fright Night* documentary (edited down from an original much-longer crowd-sourced movie) featuring exclusive interviews and plenty of production nuggets.

★★★★★



# TOP 10 Subwoofers

- 

**SVS SB-2000** → £600 ★★★★★  
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. *HCC #233*
- 

**REL No.25** → £6,500 ★★★★★  
REL celebrates its 25th anniversary in style with this 15in/1,000W premium concoction that exhibits exhilarating speed and nuance down to serious depths. Big, but beautiful. *HCC #271*
- 

**JL Audio Fathom f1212v2** → £6,500 ★★★★★  
A second-gen outing for JL's 2 x 12in monster, with an increase in power (now 3,600W) and improvements to the room EQ system among the changes. Sounds as good as you'd imagine. *HCC #261*
- 

**SVS SB16-Ultra** → £2,500 ★★★★★  
A big driver (16in) and 1,500W amp combine to give SVS's flagship sealed sub real appeal. Goes low while sounding tight and fast. App-assisted EQ and operation. *HCC #270*
- 

**REL S/3 SHO** → £1,450 ★★★★★  
The 10in, 400W S/3 is part of REL's revamped 'Super High Output' Serie S line. Performance is excellent, with speed, control and a scale bigger than you might expect. *HCC #264*
- 

**BK Electronics P12-300SB-DF** → £475 ★★★★★  
Bass heads can get outrageous value for money in the shape of BK's overperforming 12in sub. A front-firing model is also offered, and other finishes knock the ticket down to sub-£400. *HCC #247*
- 

**Eclipse TD520SW** → £3,000 ★★★★★  
This twin 8in woofer, driven by ICEpower amplification, aims for ultimate speed and tone – and succeeds. Simply put, the TD520SW is worth every penny of its asking price. *HCC #249*
- 

**NEW ENTRY**  
**GoldenEar SuperSub X** → £1,450 ★★★★★  
Four drivers (two active, two passive) squeezed into a relatively compact design and given plenty of push from a 1,400W amp. Standout traits are impact and depth. *HCC #272*
- 

**SVS PC-2000** → £800 ★★★★★  
The cylinder construction means this 12in, 500W design can boast a large cabinet but a relatively small footprint. Good value with weighty, slamming bass, but a little lacking in nuance. *HCC #267*
- 

**Artison Nano 1** → £800 ★★★★★  
Artison's media room-friendly woofer tucks twin 6.5in bass drivers and a 300W amp into its compact frame. Bass extension isn't the deepest, but this is tight, fast and heaps of fun. *HCC #253*

## TECH INFO: SPEAKERS



**Why use more than one sub?:** Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

## DEMO DELIGHT

**Rogue One: A Star Wars Story:** Another cracking DTS-HD MA 7.1 soundmix from Disney for one of its crown jewels, and – as with *...Force Awakens* – there's LFE aplenty. Largescale moments like the destruction of Jedha are blessed with rolling, heaving, show-stopping bass, while every blast, thud and boom of the Scarif showdown carries believable weight. Not too OTT, but not afraid to shake the rafters, either.

# TOP 5 Console games



## Call of Duty: Infinite Warfare

The sci-fi trappings may upset COD purists, but this is one of the series' best entries in years. The action-packed single-player campaign is a blast; multiplayer extends the fun.

★★★★★



## Resident Evil 7: Biohazard

Moving from the familiar third-person perspective to a first-person view was always going to be a risk, but it pays off here with a terrifying return to the series' roots. PS4 Pro owners get enhanced resolution visuals.

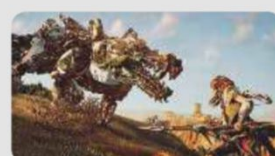
★★★★★



## Gears of War 4

A thrilling continuation of the Xbox action stalwart, with an absorbing, well-scripted single-player campaign and wonderfully colourful and vibrant visuals (with HDR on Xbox One S). Give it a spin!

★★★★★



## Horizon Zero Dawn

*Tomb Raider* meets *Zelda* in this PS4-exclusive action-adventure pitting humans against massive mechanical beasts. Excellent gameplay, and the 4K visuals are perhaps the best reason yet to upgrade to a PS4 Pro.

★★★★★



## The Legend of Zelda: Breath of the Wild

Nintendo has given its new Switch console the best start possible with this audacious and imaginative open-world addition to its ever-popular action-RPG series. A real treat.

★★★★★

## TOP 10 Accessories

- 1 KEF R50 → £600 ★★★★★**  
 KEF's Dolby Atmos-enabled reflective modules are a smart choice for anyone looking to beef up their speaker system. Using the company's Uni-Q point source drivers pays real dividends, enabling full-range sonics that reach deep into your cinema room. Styling and build quality are first rate. £600 gets you a pair – you'll soon want four... *HCC #252*
- 2 Amazon Echo Dot → £50 ★★★★★**  
 Less impressive as a standalone speaker than its larger sibling, but a third of the price, and its 3.5mm output lets it work with third-party kit. Fun AI experience, and a real bargain. *HCC #269*
- 3 Nvidia Shield Android TV → £180 ★★★★★**  
 The Android-based streamer/gaming box gets a gentle revamp – same silicon, neater design, new features including future support for Google Assistant. Slick and easy to use. *HCC #272*
- 4 Amazon Fire TV → £80 ★★★★★**  
 Media streamer with impressive search functionality and plenty of content, including 4K Netflix and Amazon Video. HDR support would be nice, though. *HCC #270*
- 5 Logitech Harmony Elite → £270 ★★★★★**  
 Flexible and relatively easy to set up, this all-in-one remote package combines touchscreen handset and hub with smart device app. Worthwhile if you have a stacked kit rack. *HCC #256*
- 6 Devolo Wi-Fi ac Repeater → £50 ★★★★★**  
 Simple plug-based add-on that extends the range of your Wi-Fi network, and offers hardwired access. Could be just the ticket for your loft-based movie room. *HCC #269*
- 7 Xbox One S → From £250 ★★★★★**  
 The retooled Xbox One adds Ultra HD Blu-ray playback, 4K streaming and HDR gaming to the feature list. Available in 500GB/1TB/2TB versions. *HCC #264*
- 8 PSB Imagine XA → £350 ★★★★★**  
 These two-way Dolby Atmos-enabled upfiring speakers are fairly chunky, but work well at creating a height layer and the £350-per-pair ticket makes them an enticing option. *HCC #264*
- 9 DVDO iScan Mini → £275 ★★★★★**  
 HDMI 4K upscaler (using Silicon Image's VRS processing) that teases sharpness from HD and SD sources. A good fit for an entry-level or mid-range 4K TV. *HCC #264*
- 10 Sony PlayStation 4 Pro → £350 ★★★★★**  
 A mid-cycle upgrade of Sony's console brings 4K and HDR gaming, plus app streaming, but not UHD BD playback. Gorgeous gameplay is the USP here. *HCC #268*

## TECH INFO: MEDIA PLAYERS



**What about my TV?:** Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Philips, Hisense, etc) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

**Storage:** You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

## TOP 5 Blu-ray/DVD boxsets


**Planet Earth II**  
**[Ultra HD Blu-ray]**

Intricately detailed and radiating HDR brilliance, this dazzling 4K outing for the BBC's acclaimed natural history series needs to be seen. And you'll learn a lot about furry critters, too.

★★★★★


**Doctor Who:**  
**The Power of the Daleks**

Unseen since 1966, this missing BBC serial has been recreated using animation – with the choice of colour or black-and-white incarnations – and packs a TARDIS-load of extras.

★★★★★


**Lone Wolf and Cub**

Criterion's handsome BD boxset brings together 2K restorations of the six films from the legendary Japanese swordplay franchise, alongside a similarly polished 1080p presentation of the US *Shogun Assassin* re-edit.

★★★★★


**Dissent and Disruption:**  
**Alan Clarke at the BBC**  
**(1969-1989)**

Mega boxset with a mega price tag (£150) featuring a comprehensive collection of Clarke's work spread across 11 BDs and two DVDs.

★★★★★


**The Hunger Games:**  
**The Complete 4-Film**  
**Collection**

Ultra HD package with pleasingly crisp 2.40:1 encodes, new Dolby Atmos mixes for the first two movies and a bulging collection of extra features.

★★★★★



## TOP 10 Soundbars & Soundbases



### Yamaha YSP-5600SW

→£1,900 ★★★★★

With its 46 drivers (including upfiring) this premium 'bar delivers precisely-steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*



### Canton DM55 →£330 ★★★★★

Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doodle to use. Bluetooth built-in. *HCC #260*



### Samsung HW-K950 →£1,300 ★★★★★

Soundbar with additional wireless rears and Dolby Atmos support via four upfiring drivers. Impressively largescale performance, good connectivity. No native DTS support. *HCC #263*



### Cabasse Stream BAR →£850 ★★★★★

Soundbar/hi-res speaker that's blessed with real musicality, but doesn't fall short when it comes to energetic film soundtracks. HDMI in/out, but v1.4 only. *HCC #269*



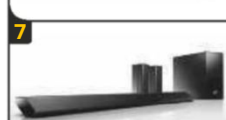
### Q Acoustics M3 →£300 ★★★★★

A 4in x 6in woofer is tucked away in the M3's eye-catching angular chassis, ensuring this well-priced soundbar has a full-range performance. Simple to use. Bluetooth streaming. *HCC #271*



### DALI Kubik One →£800 ★★★★★

The Danish speaker brand brings a slice of glamour to your setup with this stylish soundbar. No HDMI or digital decoding but it packs a tight, lively and nuanced sound. *HCC #269*



### Sony HT-RT5 →£500 ★★★★★

Sony joins the growing 'soundbar with wireless surrounds' market with an enjoyable debut that packs some worthwhile DSP modes and plenty of media-savvy functionality. *HCC #257*



### Orbitsound One P70 →£300 ★★★★★

Bluetooth-equipped soundbar that offers horizontal/vertical orientation by virtue of a flippable display and up-firing driver. Spacious sound with a good bass response. *HCC #272*



### Acoustic Energy Aego Sound3ar →£200 ★★★★★

Smallscale second-room option impresses with its punch and clarity, but a few EQ tweaks would have been nice. No HDMI connectivity. *HCC #264*



### LG SH6 →£260 ★★★★★

GoogleCast and HDMI join Bluetooth to make this soundbar well-connected. No sub, but there's a hefty low-end output via its driver array and impressive scale to its sonics. *HCC #270*

## TECH INFO: TV PLATFORMS



### TV addicts – go free, or pay-to-view?:

The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

**Sky+HD:** The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. The new Sky Q hardware includes a 4K-capable PVR with multiple tuners for simultaneous recording/device streaming.

**Virgin Media TiVo:** The cable giant offers a three-tuner PVR (ITB) with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

**Freeview:** Common option when it comes to TVs and STBs. Freeview offers 13 HD channels plus SD and radio. Freeview Play adds IPTV integration to the EPG – and you'll find it on Panasonic and Finlux TVs.

**Freesat:** Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered via a dish but without a subs cost. Budget-priced STBs are available.

**YouView:** This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

## TOP 5 Back-catalogue Blu-rays



### His Girl Friday

Criterion rustles up the definitive release of this 1940 Cary Grant/Rosalind Russell classic. Superb 1.33:1 monochrome transfer, plus a wealth of extras on this two-disc BD, including the 1931 flick *The Front Page*.

★★★★★



### Bring Me the Head of Alfredo Garcia: Limited Edition

Arrow's two-disc release marries a stunning new 4K restoration of Sam Peckinpah's most personal (and misunderstood) movie to a treasure trove of bonus goodies.

★★★★★



### King Kong: Premium Collection

Fans will go ape for this HMV-exclusive platter of the classic monster movie, which lives up to its 'Premium Collection' billing thanks to an attractive encode and engrossing extras.

★★★★★



### The Big Heat

From the sheer clarity of its restored 1080p black-and-white visuals to the extensive array of extra features (including a chat track), this is a fantastic Blu-ray edition for Fritz Lang's masterful 1953 film noir.

★★★★★



### Crouching Tiger, Hidden Dragon [UHD Blu-ray]

An assured 4K debut for Ang Lee's Mandarin-language martial arts drama. Sony Pictures' restoration work reaps rewards; a new Dolby Atmos mix is another reason to buy.

★★★★★

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# TOP 5 PVRs



## Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it.

★★★★★



## Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Now supports 4K content.

★★★★★



## Humax HDR-1100S, £190

Freesat Freetime PVR that impresses with its usability, VOD options and form factor – Humax's small, white box will slot into any kit rack. We tested the 500GB version – 1TB and 2TB models are also available

★★★★★



## Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



## EE TV Smart Box, £subscription

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

# TOP 5 Headphones



## Sony MDR-HW700DS, £800

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★



## Sony MDR-1000X, £360

Superior noise-cancelling cans with hi-res audio support via Sony's LDAC wireless transmission tech. Slick, touch-sensitive operation and healthy battery life. Fulsome sound and comfy to wear

★★★★★



## Lindy Cromo NCX-100, £100

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★



## PSB M4U1, £220

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★

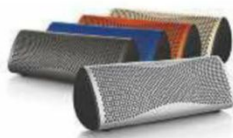


## Bose QC35, £290

The latest in the QuietComfort range ditches the wired connection in favour of Bluetooth but retains Bose's luxurious styling and rich performance. Noise-cancelling mode is very efficient.

★★★★★

# TOP 5 Wireless speakers



## KEF Muo, £300

Portable Bluetooth speaker that's a cut above much of the competition. KEF's sonic knowhow results in a punchy, dynamic presentation that cherishes lossless rips. Excellent build quality

★★★★★



## Sony SRS-X11, £60

An affordable palm-sized Bluetooth speaker with internal rechargeable battery, Sony's SRS-X11 is supremely portable and sounds decent for the money. A neat little gizmo. Get two and they can work in stereo

★★★★★



## Q Acoustics BT3, £280

Bluetooth stereo pair with optical input makes a good alternative to a soundbar (there's even a subwoofer pre-out) while remaining a dab hand at music. Neat and tidy design, good price.

★★★★★



## Simple Audio Listen, £400

Desktop stereo speakers with Bluetooth support, these benefit from separate tweeter/midbass units and a classy construction. Performance is well-balanced, and a subwoofer output is offered for extra bass

★★★★★



## Denon HEOS 5 HS2, £350

The mid-range multiroom speaker gets a second-gen revamp, adding welcome hi-res audio playback and Bluetooth connectivity. Gorgeous looks, boisterous, room-filling sound

★★★★★

# HOME CINEMA Choice

## → IN THE NEXT ISSUE

**Ultra HD movie den** We step inside a state-of-the-art custom home cinema

**Master of puppets** Relive the genius of Ray Harryhausen on Blu-ray

**Power ranger 888W amplifier?** Oh, go on then...

## → REVIEWS

**LG OLED65E7 Ultra HD OLED TV** Sony UBP-X800 4K player **Sony A1 OLED** GoldenEar SuperSub XXL

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CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER

ISSUE  
#274 ON SALE  
June 15



# AV Avenger

Sound performance continues to be a major buying choice when it comes to TVs, but adding a soundbar isn't necessarily the solution. **Steve May** has his ears on future innovations

**WHY HAS NO** one opened a drinking hole called the Sound Bar? And if they have, why have I not been invited for a pint?

These are important questions. HDR and its many (unimportant) variants may be an unhealthy obsession for some, but far more people are making a noise about TV audio. It's become so contentious, the BBC even ran a news item on it after yet more complaints about incomprehensible drama (and I'm not talking about *Westworld*).

Slow moving alt-history show *SS-GB* was the latest high-profile TV yarn to be embroiled in mumblegate. As with *Taboo*, *Happy Valley* and *Jamaica Inn* before it, viewers complained they couldn't work out what anyone was saying. The BBC apparently attempted to resolve the issue by muting background music and competing Foley FX, which smacks of desperation if nothing else.

A BBC News channel investigation staged listening tests for various age groups using different screens and devices. Viewer reaction was divided equally amongst all ages. The report seemed to conclude that the best solution was to watch TV on a 15-year-old Daewoo CRT portable. Or use subtitles. Or both. I'm not sure I entirely agree.

## Keep on upgrading

For many, the soundbar has become a *de facto* sonic cure. Millions have been sold. And TV manufacturers increasingly see improved audio as a way of shifting new sets. Having persuaded us to buy that soundbar, the industry now intends to convince us that a new screen with upgraded audio is actually the better bet. Time to reclaim that space back under the telly?

There is no doubt soundbars often bring their own problems. They rarely match, style-wise, to the TV they're partnered with, and can obscure

the IR zapper window. And in most households, that subwoofer is an MDF eye-sore, even if it manages to connect wirelessly.

For a time the soundbase looked like an answer. By doubling as a platform for the TV, they were better able to blend in with the décor. More cubic capacity meant that they could generate a decent level of deep bass. Yet despite valiant sounding efforts from Canton, Geneva *et al*, soundbases haven't took off.

## More radical TV sound innovation is coming from elsewhere

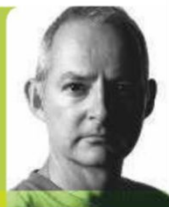
Sony's Acoustic Surface technology is a novel solution. Introduced on the brand's A1 OLED TV, it turns the screen itself into a loudspeaker. A pair of actuators bonded onto the rear panel output 2 x 20W, supported by a 10W subwoofer in the TV's lean-back stand. I've heard it now with movies and music, and the end result is as good as the hubbub made by the average 'bar. In some ways, it's even better as the audio closely matches onscreen action. Unfortunately, it's an OLED-only trick. You won't see Acoustic Surface tech on LCD TVs, because a similar arrangement would only serve to vibrate the backlight, and that'll never sound good.

More likely, we'll see a return to integrated TV audio systems – LG is sweetening the pot by adding Dolby Atmos support to its better-specified 2017 TVs, and others will follow. Yet I've a sneaking suspicion that tastier carrots will soon be dangled in front of our cochleas. Some industry insiders suggest that 24-bit TV audio systems are going to become the next must-have.

One thing's certain: TV sound is getting an upgrade. You heard it here first ■

*Do you ever listen to your TV's own speakers?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

As well as opening his Sound Bar, **Steve May** has plans for an AV-themed shoot-'em up videogame called *Scart Attack*







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A high-angle, close-up photograph of the Oppo UDP-205 front panel. The device is black with a matte finish. The Oppo logo is visible on the top left. A disc tray is in the center, with a digital display above it showing '000000' and various status icons like 'UHD BD', 'TrueHD', and 'TT'. To the right of the tray are several buttons and a gold-plated optical input. The bottom left features a power button and a small blue LED indicator. The text 'ULTRA HD BLU-RAY DISC PLAYER UDP-205' is printed along the bottom edge of the front panel.

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